MIKE MCNERNEY

ARCHAEOLOGICAL
SALVAGE REPORTS
NO. 39

UNIVERSITY MUSEUM
SOUTHERN ILLINOIS UNIVERSITY
at CARBONDALE

# Archaeological Investigations at the Burning Star No. 4 Mine Perry County, Illinois

Edited
by
Michael J. McNerney

Archaeological Research Conducted
Under a Grant Provided by the
Midwestern Division of Consolidation
Coal Company

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Contributors

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Archaeological Research Conducted Under a Grant
Provided by the Midwestern Division
of Consolidation Coal Company
Pinckneyville, Illinois



University Museum
Southern Illinois University at Carbondale
Carbondale, Illinois

March, 1974


Cover Design: Prehistoric Petroglyph
Johnson County, Illinois

# PREFACE

The research which is reported on in this volume was made possible by a grant from the Midwestern Division of Consolidation Coal Company to the Division of North American Archaeology, Southern Illinois University Museum. The work was initiated in March of 1973 when the company notified the Museum that pre-mining construction activities had exposed a prehistoric occupation at the Burning Star No. 4 Mine. With the cooperation of Mr. Glenn Phillips, chief engineer and other company officials a grant was subsequently arranged to carry out an archaeological survey of the mine area. Field work was conducted from October 1 through December 31, 1973.

Field operations were directed by Ron Pulcher with the assistance of Raymond Zoanetti. As project director, I would like to thank both of these gentlemen for their hard work and fine contributions to this volume. I would also like to thank Thomas Guensburg for his faunal analysis of specimens from the Brune and Burning Star sites.

Like archaeologists across the country who are seeing their research base and Americas past disappearing at epidemic rates through industrial and urban expansion, I am especially grateful to Consolidation Coal Company for lending a helping hand in this research effort.

MJM

ACKNOWLEDGMENTS

The employees of Consolidation Coal Company were most cooperative and provided assistance in many ways. We would like to thank Glenn Phillips, Jim Murray, Bob Lunnemann, Paul Martin, Steve Stocks, Bob Connor, Dennis Plab and Don Dinkins. To the many other employees who assisted, we offer our sincere thanks.

Many area residents assisted by allowing us to survey their lands, examine and photograph their collections, and by pointing out prehistoric sites. We would like to thank Perry Purcell, Bill Smith, Ehardt Mayer, Bill Mayer, Vernon Mayer, Leon Moore, Dale Smith, Louis Brune, Bart Eaton, John Pugh, Clyde Carter, Perry Hottes, Henry Wagner, Robert Bigham and Kermit Rheinecker. In addition we would like to thank Keith Thompson for allowing us to survey a small portion of Southwestern Illinois Coal Company land.

Salvage excavations which often arise on a moments notice require volunteer help. The following persons formed the "emergency rescue team" at the Brune and Burning Star sites: Ginger McNerney, Robert Huff, Bill Ganzer, Kieth

Johanson, Ralph Schrader, Arthur Beck, Bob Lafferty, Steve Anderson, Lynn Winter, Mitchell Sutherland, Bill Cremin, Barry Konneker, Walter Brieschke, Susan Brieschke and Jay Johnson. Without the help of these people the prehistoric data recorded in the following pages would not have been possible.

For assistance in identification of certain faunal remains we would like to thank Dr. W. D. Klimstra, Robert Pickering, Sarah Anderson and Arthur Bogan.

Finally, our sincere thanks to Mrs. Geraldine Kelley and her staff at the University Museum especially Carla Lirely, Teresa Courson and Karen Gates.

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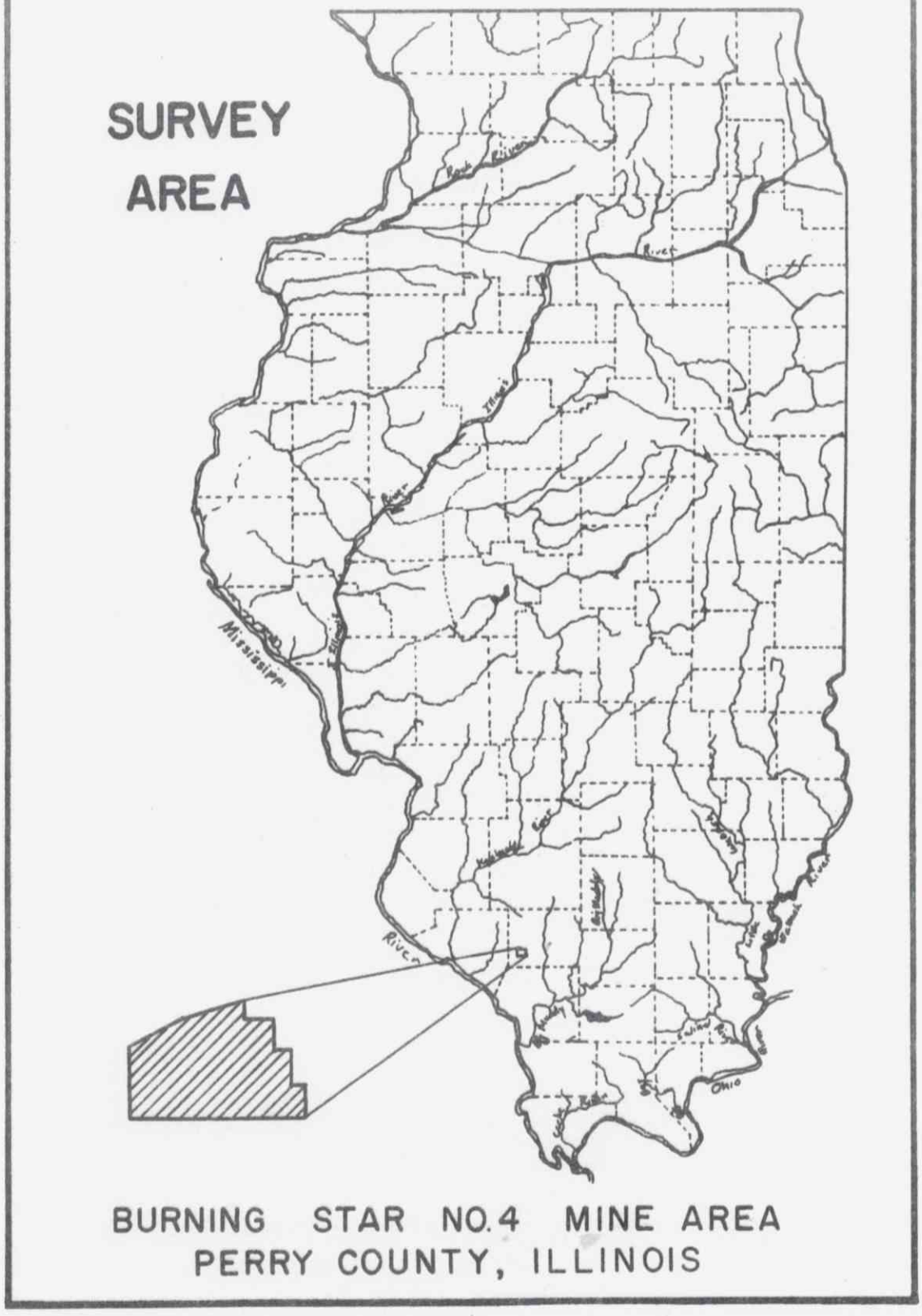
# AN ARCHAEOLOGICAL SURVEY OF CONSOLIDATION COAL COMPANY'S BURNING STAR NO. 4 MINE

## INTRODUCTION

The archaeological survey of the Burning Star No. 4 Mine began in late September and continued through the first week of December, 1973. Originally, plans were to survey the mine area and then make surface collections at sites immediately adjacent to the northern and southern boundaries of the mine. This would have given valuable data on the distribution of sites along Galum Creek. Due to the fact that the Burning Star site (21C4-3) was excavated during the early part of the survey, little time remained for obtaining surface collections outside the mine area. However, local residents provided data on the location of sites outside the mine. This data combined with information provided by the catalogued collections of local amateurs and supplemented by the surface collections obtained during the survey are summarized in this report. Intensive surface survey was conducted only within the boundary of the Burning Star No. 4 Mine.

# MAP 1




BURNING STAR NO.4 MINE AREA
PERRY COUNTY, ILLINOIS

## ENVIRONMENTAL SETTING IN THE MINE AREA AND WESTERN PERRY COUNTY

We had originally planned an environmental reconstruction for the mine area and vicinity; however, available published data and time limitations prevented such a study. The 1815 land survey records were consulted, but, these records provided little usable botanical data and were often illegible. Therefore, the following botanical data represents contemporary plant communities and related environments. The contemporary environment is considered a working hypothesis or base line against which the present archaeological research can be viewed. Until future archaeological and related paleoenvironmental research is carried out in the mine area, this hypothesis is based on the assumption that no major climatic changes occurred in southern Illinois since the close of the Hypsithermal Interval (7600-4500 B.P.) (Geis and Boggess, 1968:89). The environmental zones that follow are based primarily on topography, soil distribution and modern plant communities.

Physiographically, western Perry County is part of the Till Plains Region, as is all of the county and much of the area north of the Shawnee Hills Section. This is the area where the prairie meets the Western Mesophytic Forest Region (Braun, 1950). This is not to say, however, that the prairie exclusively dominates all of this region. Within the Till Plains Region, western Perry County lies in what is known as

the Mount Vernon Hill Country. This area:

> . . . comprises the southern portion of the Illinoisan driftsheet . . . and is characterized by mature topography of low relief with restricted upland prairies and broad alluvial valleys . . .
>
> A relatively complete drainage system is present, and most streams have broad terraced valleys and low gradients. Natural drainage is good throughout the upland areas, but the larger valley bottoms are poorly drained. Extensive aggraded lowlands along the Wabash drainage system to the east and the Big Muddy Basin to the west are outstanding physiographic features . . . The present land surface is primarily a bedrock surface of low relief, which is only slightly modified and subdued by a mantle of drift (Leighton, Ekblaw, and Horberg, 1948:27).

In general, western Perry County is dominated topographically by the drainage of Galum Creek, running approximately north-south. The bottom land areas are surrounded by sloping areas up to 30 degrees which are for the most part heavily timbered. Above this the surface is level and gently rolling.

Early observers in the area reported:

> The prairies here . . . form the highest part of the ground . . . In Perry (County) they are mostly surrounded by timbered flats, which gradually pass into more broken timbered lands as you approach the streams . . .
>
> The creek bottoms within the barrens have a soil similar to the flats . . . The timber is tall and heavy . . .
>
> The Post Oak Flats are comparatively level stretches of the upland, sparsely timbered with patches of post oak and interspersed with blackjack . . . (Anon., 1883:48).

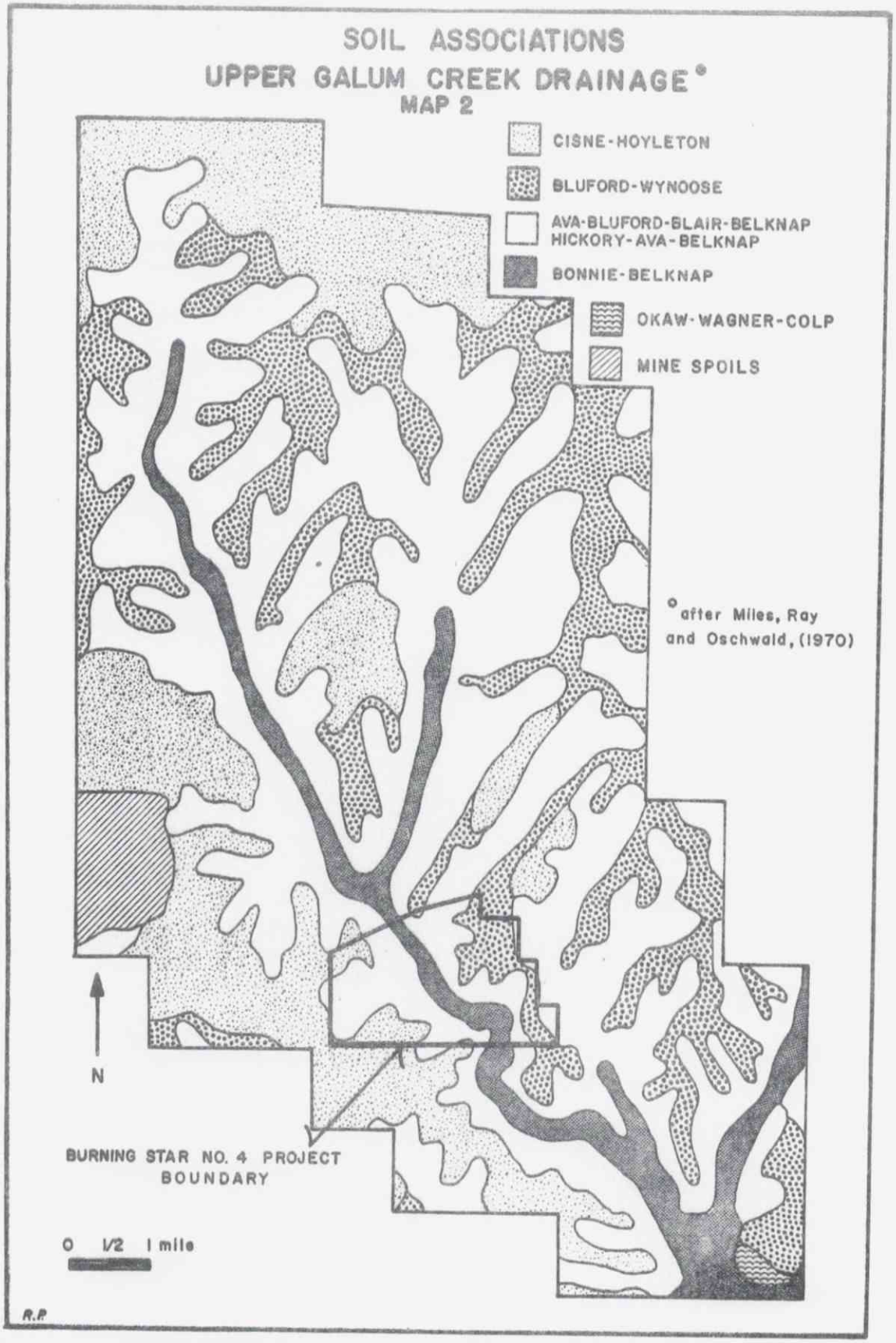
Although the climate is characteristically cool and moist, the frostless season in Perry County ranges between 180 to 200 days per annum (Yarnell, 1964:127). The mean minimum January temperature for this area is 26°F., while the mean maximum July temperature is 92°F. The mean annual precipitation for Perry County is between 40 and 44 inches (Estes, n.d.:36).

The soils of Perry County (Map 2) and their distribution as well as their relationship with the various plant communities will be discussed below.

Drawing heavily from Denny (n.d.) and relying on available published data from surrounding areas, the following four plant communities are recognized in western Perry County: Prairie, Slope Woodland, Bottomland Forest, and Post Oak Flats. Within several of these plant communities we will discuss, in a brief manner, some of the vegetational variations that are distinctive, but due to their extinction, difficult to delineate properly. Denny (n.d.:24-51) has discussed all but the Slope Woodland community.

## Prairie

The prairie soil is characteristically dark and thick and in this county accounts for over 56,000 acres of land in the Cisne-Hoyleton Soil Association (Map 2).


SOIL ASSOCIATIONS
UPPER GALUM CREEK DRAINAGE*
MAP 2
CISNE-HOYLETON
BLUFORD-WYNOOSE
AVA-BLUFORD-BLAIR-BELKNAP
HICKORY-AVA-BELKNAP
BONNIE-BELKNAP
OKAW-WAGNER-COLP
MINE SPOILS
*after Miles, Ray and Oschwald, (1970)
N
BURNING STAR NO. 4 PROJECT BOUNDARY
0 1/2 1 mile
R.P.

Although these are not the extensive rolling prairies of the north that were noted by the early explorers (Denny, n.d.:20), these prairies do, however, support characteristic prairie flora and to a lesser extent fauna. Indian grass (Sorghastum nutans) and little bluestem (Andropogan scoparius) make up well over 75 percent of the prairie flora. Big bluestem (A.gerardi) and bush clover (Lespedeza virginica) are also components of the prairie environment along with other characteristic plants, such as wild rye (Elymus virginicus) and (E.canadensis), switch grass (Panicum verigatum) and slough grass (Spatina pectinate). The distribution of these grasses within the prairie community is dependent upon the moisture content capability of the soil, which is related to the degree of slope (Voigt and Mohlenbrock, 1964:150-151).

## Post Oak Flats

The area that we designate as the Post Oak Flats community, the "flats" of the early settlers, comprises some 70,000 acres in Perry County. Its extent is delineated by its interrelationship with Bluford-Wynoose Soil Association. Denny (n.d.) included the community which we refer to below as Slope Woodland in his Post Oak Flats community.

The Bluford-Wynoose Soil Association is characterized by its light color, moderate slope and poor drainage capability (Miles, Ray and Oschwald, 1970).

> The "flats" are nearly level stretches of upland, . . . and are timbered principally with single large and widely scattered post oak (Quercus obtusiloba)[1], of sturdy, thickset growth, with stout crooked branches and a tattered top. Their trunks are generally in part rotten, perhaps in consequence of injuries which they received by fire during the earlier periods of their growth, more likely, however, it appears to me, in consequence of the, at times, quite unfavorable conditions of the grounds upon which they grow, which may produce disease in the tree. The trees of the large post oak stand wide apart, and are interspersed with blackjack (Quercus nigra)[2] and in places young post oak . . . These woods are quite open, and their white soil is only scantily covered with vegetation. Even where the annual fires are kept out, undergrowth is very slow in springing up in the regular flats (Engelmann, 1863:390).

The nature of the soil is such that drainage is very poor in the spring and moisture retention is low during the summer. Basically this area has a thick layer of glacial drift and silty clay overlain with a thin layer of unmodified loess (Telford, 1926:32-35).

The Post Oak Flat community is dominated by post oak and black jack oak as previously mentioned. Other oaks and

---

[1]Species name now obsolete; Q.stellata is now correct.

[2]Black jack oak = Q.marilandica

hickories are encountered in areas favorable for their growth. In wet areas, pin oak (Q.palustris) is found along with other moisture needing trees such as shingle oak (Q.imbricaria).

## Slope Woodland

The Slope Woodland community comprises over 102,000 acres in Perry County and is situated on the slopes of the drainage systems of this area.

The delineation of this community coincides with the extent of the Ava-Bluford-Blair-Belknap and Hickory-Ava-Belknap Soil Associations. In general, the Slope Woodland drains moderately well, but some of the Blair, Belknap and Bluford soils are somewhat poor in their drainage capabilities. These soil associations all originated under forest conditions (Miles, Ray and Oschwald, 1970).

Although we have no data from Perry County, Voigt and Mohlenbrock (1964:170-171) provide information from several upland slope localities in Jackson County, Illinois. This data should be generally applicable for the Slope Woodland areas of Perry County. It indicates a slope community dominated by white oak (Quercus alba) and black oak (Q. veluntina). Red oak (Q.rubra), and pignut hickory (Carya glabra) are important subdominant tree species in this community.

Engelmann (1863:394) describes briefly a community that he refers to as the "white oak lands," which are found "only in the steep breaks of the creeks and at a few other points, but is altogether subordinate." These "white oak lands" must certainly be included in the Slope Woodland.

## Bottomland Forest

The distribution of the Bottomland Forest community in western Perry County is restricted to the drainage of Galum Creek and its tributaries. Its delineation is the same as that of the Bonnie-Belknap Soil Association (Miles, Ray and Oschwald, 1970). This plant community comprises over 28,930 acres in Perry County. The soil is light, poor in drainage capabilities and is never present on a slope of more than two degrees. It was originated under forest conditions. In all cases it is surrounded by the Slope Woodland community.

The dominant trees are the pin oak (Quercus palustris), white oak, ash (Fraxinus sp.), elm (Ulmus sp.), and gum (Nyssa sp.). Other trees, making up eight percent or more, include spanish oak (Q.falcata) and shagbark hickory (Carya laciniosa).

> The principal creek bottoms . . . have a soil very similar to that of the flats, perhaps a little coarser but its upper portion is considerably more mixed with vegetable mould, and about as dark as the prairie soil. They are overflowed by freshets, and very naturally

> supplied with the necessary moisture from the creeks, even in the driest season, and their growth is thereby regulated. The timber is heavy and very tall, and consists principally of the swamp white oak (Quercus bicolor) and the pin oak (Quercus Palustris) with some scaly-barked hickory (Carya alba), but where the creeks enter the limits of the underlying limestones and shales the growth is much more varied, and consists, in addition to the above named trees, of bur oak (Q.macrocarpa), red oak (Q.rubra), laurel oak (Q.imbricaria), ash, black walnut, hazel, and many others (Engelmann, 1863:394).

Bottomland Forest communities are traditionally rich in exploitable natural resources due to the abundance of moisture and decaying vegetable matter which add nutrients to the soil. The water systems provide additional niches for various plants, fish, and mussels which could be successfully exploited by prehistoric man. With its abundance of hickories (Carya sp.) and oaks (Quercus sp.) the Bottomland Forest community of western Perry County provides a convenient supply of nuts and acorns as well as other fruits and wood.

## Summary

The basic distinction made here subdivides Denny's (n.d.) Post Oak Flats community into Post Oak Flats (Bluford-Wynoose Soil Association) and Slope Woodland (Ava-Bluford-Blair-Belknap and Hickory-Ava-Belknap Soil Associations) in the area of western Perry County.

We feel this distinction is necessary due to the degree of slope and drainage characteristics of an area needed to support a Post Oak Flats community. The Slope Woodland is a logical division within the area since distict slope vegetational communities are noted for the Shawnee Hills section of Illinois (Voigt and Mohlenbrock, 1964). Although the topography of the Galum Creek drainage in western Perry County is not as accentuated as that of the Shawnee Hills, the concept of a distinct slope community should not be ignored in Perry County.

Assuming that there has been no major climatic changes during the past 4000-7000 years the prehistoric inhabitants of the Galum Creek area were living in an environment similar to that described above. From an ecological point of view the above description is much too simple. Certainly the dynamics of prehistoric man's interaction within this rich and varied environment will require further research.

## SURVEY AREA

The Burning Star No. 4 Mine is a 2,430 acre area in southwestern Perry County, Illinois (Map 1). It includes approximately two linear miles of Galum Creek.

The Galum Creek drainage lies on the western margin of the Big Muddy River Basin. The headwaters of Galum Creek lie in Grand Cote Prairie in the extreme northwestern corner of Perry County. Galum Creek flows twenty-four miles in a south-southeasterly direction before emptying into Beaucoup Creek just south of the Perry-Jackson County line.

The following gives approximate acreages for the environmental zones within the mine area. The related soil associations (Map 2) are also given. Soil data follows that found in "Soil Associations of Perry County, Illinois" (Miles, Ray and Oschwald, 1970).

| Zone | Soil Association | Acres |
|---|---|---|
| Prairie | Cisne-Hoyleton | 340 |
| Post Oak Flats | Bluford-Wynoose | 470 |
| Slope Woodland | Ava-Bluford-Blair-Belknap and Hickory-Ava-Belknap | 1250 |
| Bottomland Hardwood | Bonnie-Belknap | 370 |

It should be noted again that these environmental zones are based primarily on soil data and secondarily on topography and distinguishable modern plant communities.

Forest covers approximately 500 acres of the mine area. In addition, old fields now covered with small trees and brush

account for approximately 200 acres. The remaining 1,730 acres are in pasture or cropland. At the time of this survey only 295 acres (12.1 percent) of the land had ground visibility of ten percent or better.

## SURVEY METHODS

Since only 12.1 percent of the land in the mine area had ground visibility that allowed site definition by on-the-ground survey, information supplied by landowners, tenants, and local amateur archaeologists became vital.

Information on the mine area proper was obtained primarily from landowners and tenants. The mine lies within the former collecting territory of Mr. Louis Brune, deceased; and a few other collectors had information on this area.

Areas with ground visibility above ten percent were walked in 15 meter intervals (see Map 3) and all cultural materials were collected. Thirty locations of isolated cultural material were recorded in this manner. These sites are discussed separately as intersite activity areas.

The majority of forested areas were walked in an attempt to discover mounds, burials, or other features which might be visible. No sites were located by this method other than the two reported by informants prior to exploration of the forest.

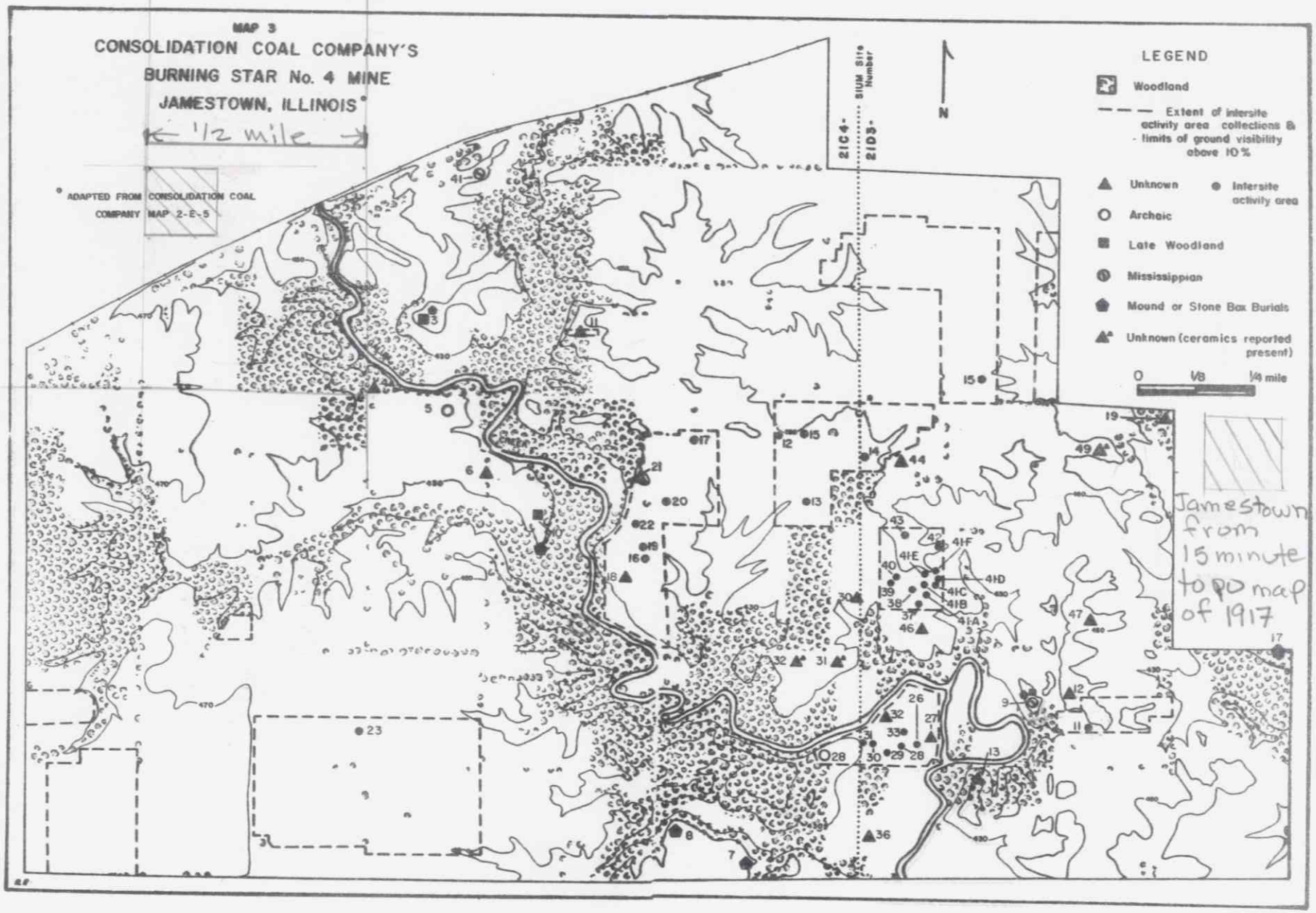
27 | 26
34 | 35

MAP 3

CONSOLIDATION COAL COMPANY'S
BURNING STAR No. 4 MINE
JAMESTOWN, ILLINOIS*

← 1/2 mile →

* ADAPTED FROM CONSOLIDATION COAL COMPANY MAP 2-E-5




MAP 3

## SITES WITHIN THE MINE AREA

Two Archaic sites were located within the Burning Star No. 4 Mine area. The first site, 21C4-5, was not in condition for surface collecting. However, an informant reported that a considerable number of Dalton-like projectile points had been recovered from the site over a period of years.

The surface collection from the second site, 21C4-28, produced the basal section of a Motley-like projectile point (Bell, 1958:62-63). Although this point is mentioned by Winters (1967:90) as being "a dominant type in sites of the Early Woodland Sugar Hill Culture," it is considered here as Archaic due to the lack of ceramics present on the site.

Although no materials collected were found to indicate an Early or Middle Woodland occupation, a second informant recovered one Crab Orchard Fabric Marked, interior punched and noded rim sherd from the Brune site (21D3-9). A similar rim sherd was recovered from the Burning Star site (21C4-3) by another informant. No other ceramics of this period were observed in collections from the mine area. However, little ceramic material is present in collections unless the item is particularly unusual.

Three Late Woodland sites were identified. The Burning Star site (21C4-3) and the Brune site (21D3-9) both produced Late Woodland ceramics and are reported in this volume. The third site, 21C4-10, produced a minor amount of Late Woodland ceramics under very poor visibility conditions.

Two Mississippian occupations were identified. Both are now destroyed by mining activities. The Brune site (21D3-9) is reported in this volume; however, no site definition or excavation was conducted at the second site 21C4-41 where an informant reported the occurrence of Mississippian ceramics.

Mississippian stone box burials were reported from three sites within the mine area (21C4-8, 21C4-10 and the Brune site). Survey conducted outside the mine area revealed the location of two additional sites of this type, 21C4-9 and 21D3-10. These five stone box burial sites were located along three linear miles of Galum Creek (mine area included). All sites are on high ridges immediately adjacent to the major stream valley, with the exception of site 21C4-8, which is located on a ridge above a minor tributary of Galum Creek.

Three sites which produced ceramics were reported by informants, but ground cover prohibited surface collecting of these sites. Sites 21C4-31 and 21C4-32 were reported

TABLE 1: SELECTED DATA ON SITES WITHIN THE MINE AREA

| SITE NUMBER | CULTURAL AFFILIATION | DIMENSIONS OF SITE (SQ. MTRS.) | SOIL ASSOC. | VISIBLE ORGANIC STAINING OF SOIL | GROUND VISIBILITY (PERCENT) | COMMENTS |
|---|---|---|---|---|---|---|
| 21C4-4 | Unknown | n.d. | ABBB | n.d. | 0 | Two burials were reported taken out by road construction in the early 1930's. Considerable limestone was reported in association with the burials. Two trenches were placed into the small area of ridge remaining but no evidence of other burials was found. This area faces immediate destruction by mining. |
| 21C4-5 | Archaic | n.d. | ABBB | n.d. | 0 | Projectile points of the Dalton variety are reported as the most common artifact on this site. |
| 21C4-6 | Unknown | n.d. | ABBB | n.d. | 5 | A light scatter of lithic debris is present on the east side of the fence row. The site is reported to continue to the west into fallow field. |

KEY TO ABBREVIATIONS

n.d.: No data

Soil Associations (Miles, Ray and Oschwald, 1970)

ABBB: Ava-Bluford-Blair-Belknap

CH: Cisne-Hoyleton

HAB: Hickory-Ava-Belknap

BW: Bluford-Wynoose

m.a.s.: Minimum area of scatter

t.a.s.: Total area of scatter

TABLE 1: SELECTED DATA ON SITES WITHIN THE MINE AREA (Continued)

| SITE NUMBER | CULTURAL AFFILIATION | DIMENSIONS OF SITE (SQ. MTRS.) | SOIL ASSOC. | VISIBLE ORGANIC STAINING OF SOIL | GROUND VISIBILITY (PERCENT) | COMMENTS |
|---|---|---|---|---|---|---|
| 21C4-7 | Unknown | n.d. | CH | n.d. | 0 | This site is a mound 40 meters in diameter and 75-100 cm. in height. Quantities of limestone are reported to occur in the mound. |
| 21C4-8 | Mississippian | n.d. | CH | n.d. | 0 | This area reported as the location of stone box burials. Field may have associated habitation site. |
| 21C4-10 | Late Woodland | 2,400 m.a.s. | ABBB | Present | 5 | A heavily potted area is at south tip of ridge and reported to have been stone box burials. No stone is visible at present as the area is heavily overgrown. |
| 21C4-11 | Unknown | 2,000 m.a.s. | ABBB | Absent | 100 | A mound may exist on this site. The field was plowed and Feature 1 on site partially removed as it was exposed in plow furrow. Controlled surface (walk and plot) data collected on plowed area of site. Material was left in place. Site continues into recently cleared woodland. |

TABLE 1: SELECTED DATA ON SITES WITHIN THE MINE AREA (Continued)

| SITE NUMBER | CULTURAL AFFILIATION | DIMENSIONS OF SITE (SQ. MTRS.) | SOIL ASSOC. | VISIBLE ORGANIC STAINING OF SOIL | GROUND VISIBILITY (PERCENT) | COMMENTS |
|---|---|---|---|---|---|---|
| 21C4-18 | Unknown | 15,750 t.a.s. | ABBB | Absent (?) | 30 | Visibility percent is only an average, parts of site near zero visibility. |
| 21C4-21 | Unknown | 2,000 | ABBB | Absent | 60 | Site may continue north into woods. |
| 21C4-28 | Archaic | 4,500 m.a.s. | HAB | Absent | 40 | Historic debris is present on site. Site extends into woods on the west. |
| 21C4-30 | Unknown | n.d. | HAB | n.d. | 0 | Two corner notched projectile points were reported from site by landowner. |
| 21C4-31 | Unknown | n.d. | HAB | n.d. | 0 | Ceramics reported present on site by landowner. |
| 21C4-32 | Unknown | n.d. | ABBB | Present | 0 | Dark soil discoloration reported on highest part of ridge by landowner. This area also reported to be highest in artifacts. Ceramics are reported present. |

TABLE 1: SELECTED DATA ON SITES WITHIN THE MINE AREA (Continued)

| SITE NUMBER | CULTURAL AFFILIATION | DIMENSIONS OF SITE (SQ. MTRS.) | SOIL ASSOC. | VISIBLE ORGANIC STAINING OF SOIL | GROUND VISIBILITY (PERCENT) | COMMENTS |
|---|---|---|---|---|---|---|
| 21C4-41 | Mississippian | n.d. | ABBB | n.d. | not visited | Site has already been mined. Shell tempered ceramics were reported present on the site. |
| 21D3-12 | Unknown | n.d. | BW | Present | 0 | Site now covered by spoil of earth removed for new channel of Galum Creek. Soil staining confirmed by two persons, both reporting prehistoric debris. |
| 21D3-13 | Unknown | n.d. | HAB | n.d. | 0 | Eight m. diameter pit with depth of 50-60 cm. is at north point of ridge. One bone fragment was collected from pit. Scatter may be as large as 20,000 sq. meters. Pit appears to be remains of house depression which was far enough off ridge to have remained undisturbed by cultivation when field was in crops many years ago. |
| 21D3-17 | Archaic | n.d. | HAB | n.d. | 0 | Archaic materials reported from field north of mine area. On fence line separating mine area from private land is a small rise which may be a mound. |

TABLE 1: SELECTED DATA ON SITES WITHIN THE MINE AREA (Continued)

| SITE NUMBER | CULTURAL AFFILIATION | DIMENSIONS OF SITE (SQ. MTRS.) | SOIL ASSOC. | VISIBLE ORGANIC STAINING OF SOIL | GROUND VISIBILITY (PERCENT) | COMMENTS |
|---|---|---|---|---|---|---|
| 21D3-19 | Unknown | n.d. | ABBB | n.d. | 100 | This site lies partially outside the mine area. The portion of the site within the mine area has been destroyed by a new road. |
| 21D3-27 | Unknown | 1,925 t.a.s. | HAB | Absent | 40 | |
| 21D3-32 | Unknown | 4,000 t.a.s. | HAB | Absent | 40 | |
| 21D3-36 | Unknown | 6,400 m.a.s. | HAB | Present | 50 | Site may continue as lighter scatter to the northwest. Only parts of ridge had visibility conditions higher than 5-10 percent. |
| 21D3-44 | Unknown | n.d. | BW | Present | 0 | Description of site by landowner fits exactly the situation noted for 21D3-43, an intersite activity area. |
| 21D3-46 | Unknown | n.d. | HAB | n.d. | 0 | This site most often mentioned as one most frequently collected in the immediate area. |

TABLE 1: SELECTED DATA ON SITES WITHIN THE MINE AREA (Continued)

| SITE NUMBER | CULTURAL AFFILIATION | DIMENSIONS OF SITE (SQ. MTRS.) | SOIL ASSOC. | VISIBLE ORGANIC STAINING OF SOIL | GROUND VISIBILITY (PERCENT) | COMMENTS |
|---|---|---|---|---|---|---|
| 21D3-47 | Unknown | n.d. | BW | n.d. | 0 | Parts of site destroyed by excavation for new channel of Galum Creek. |
| 21D3-49 | Unknown (Woodland) | n.d. | BW | n.d. | 5 | Historic debris noted on site. Burials reportedly associated with Woodland ceramics at east point of ridge, an area now destroyed by the new channel cut for Galum Creek. |

with ceramics of undetermined cultural affiliation. Site 21D3-49 was reported with Woodland ceramics and burials. Most of this latter site has been removed by the new channel for Galum Creek.

A relatively large mound was found on site 21C4-7. A mound has been reported for the Burning Star site. Sites 21C4-11 and 21D3-17 each have one small rise which may be an indication of mounds.

More detailed data on each site located within the mine area can be found in Table 1.

## INTERSITE ACTIVITY AREAS AND THEIR RELATIONSHIP TO ENVIRONMENTAL ZONES

An intersite activity area is defined on the basis of site size rather than on the quantity of material recovered at a particular location. Sites with an area of scatter less than 1,000 square meters (paced) are designated intersite activity areas. These areas produced material which was isolated in space, being removed both from sites of greater than 1,000 square meters and from other intersite activity areas.

Due to the small amount of material recovered, no temporal control is possible for any of the intersite activity areas. A working hypothesis is that the environmental zones are generally valid back to the close of the

Hypsithermal (Geis and Boggess, 1968). Therefore, lack of temporal control is not critical since the environmental zone itself, not the particular cultural groups which left remains in the zone, is of interest here.

The location and density of intersite activity areas is assumed to reflect the location and intensity of exploitative activites taking place within differing environmental zones. Implicit in this statement is the assumption that the resources being exploited are derived from the zone in which the intersite activity area is located.

All fields within the mine area which had a ground visibility of ten percent or higher were walked in 15 meter intervals (see Map 3). This procedure was used to recover the most information possible on the location of the isolated intersite activity areas. When material was found by this method, an intensive search of the immediate area was undertaken. All points where material occurred were marked. Before collecting the material a determination of the area of scatter was made by pacing off the maximum length and width distances represented by the marked locations of material.

The soil association map for Perry County, Illinois, (Miles, Ray and Oschwald, 1970) and its accompanying text and landscape relationship profiles were used to determine

the soil association for each site. As the soil map is very general in delineation of the soil association, it was necessary to carefully inspect the immediate area of the site for differences in soil texture, inclusions and color before assigning a particular soil association to a site. Soil associations for the environmental zones are given above in the introduction to the survey.

Broken down by acreage, the zones walked and the total number of intersite activity areas located are given below.

| Total Acreage Walked | Zone | Number of Intersite Activity Areas Located |
|---|---|---|
| 112 | Prairie | 1 |
| 101 | Post Oak Flats | 7 |
| 68 | Slope Woodland | 22 |
| 14 | Bottomland Forest | 0 |

A very small sample of the alluvial stream valley or Bottomland Forest area was surveyed. The lack of material in this case may reflect recent alluviation or the small sample size. It does not seem likely that this area, rich in natural resources, should be totally void of materials.

The possibility that resources of this zone were not exploited within the zone is possible. There is no control for this in the present study.

The one site recorded in the Prairie is felt to be of historic origin. The unweathered appearance of the limestone recovered and the mass of a large block left in the field would indicate that these stones were perhaps weights used on farm implements and discarded or lost at this location.

Before discussing the remaining two zones, some comment on the classification of materials recovered from the inter-site activity areas is necessary. Table 2 summarizes the data on material collected.

An unaltered cobble is an unbroken or unfractured cobble which shows no indication of use. A fractured cobble is one which did not reveal any use but which had been broken. A battered cobble was any fractured or whole cobble which had a roughened surface area where patination was discontinuous between the roughened area and the original surface of the cobble. Battered cobbles may be the results of mano or hammerstone usage. Pitted cobbles were represented by a small "nutting hole" and often showed some areas of roughening in addition. The one metate recovered had two concave sides which showed heavy wear. All other classifi-cations are self explanatory.

TABLE 2: CLASSIFICATION OF MATERIALS FROM INTERSITE ACTIVITY AREAS

| SITE NUMBER | ENVIRONMENTAL ZONE | UNALTERED COBBLE | BATTERED COBBLE | FRACTURED COBBLE | METATE | PITTED COBBLE | ALTERED CHERT BLOCK | UNALTERED CHERT BLOCK | UTILIZED FLAKE | UNUTILIZED FLAKE | BIFACIAL TOOL FRAGMENT | SANDSTONE ABRADER | LIMESTONE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21C4-12 | POST OAK FLATS | | | | | 1 | | | | | | | |
| 21C4-13 | | | 1 | | | | | | | | | | |
| 21C4-15 | | | | 1 | | | | | | | | | |
| 21D3-11 | | | | | | 1 | | | | | | | |
| 21D3-15 | | | | | | | | 1 | | | | | |
| 21D3-42 | | 1 | | 2 | | | | | | | | | |
| 21D3-43 | | | 1 | 1 | | | | | | | | | 27 |
| TOTALS | | 1 | 2 | 4 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 27 |
| 21C4-16 | SLOPE WOODLAND | | | 1 | | | | | | | | | |
| 21C4-17 | | | 1 | 2 | 1 | | | | | | | | |
| 21C4-19 | | | 1 | | | | | | | | | | |
| 21C4-20 | | | 1 | 2 | | | | | | | | | |
| 21C4-22 | | 1 | 1 | | | | 1 | | | | | | |
| 21D3-14 | | | 1 | | | | | | 1 | 1 | | | |
| 21D3-26 | | | 1 | | | | | | | | | | 4 |
| 21D3-28 | | | | 1 | | | | | | | | | |
| 21D3-29 | | | | | | | | | | | | | 1 |
| 21D3-30 | | | | 1 | | | | | | | | | |
| 21D3-31 | | | | | | 1 | | | | | | | |
| 21D3-33 | | 1 | | | | | | | | | | | |
| 21D3-37 | | | 1 | | | | | | | | | | |
| 21D3-38 | | | | | | | | 1 | | | | | |
| 21D3-39 | | | | | | 1 | | | | | | | |
| 21D3-40 | | | | 1 | | | | | | | | | |
| 21D3-41A | | | | 3 | | | | 1 | | | | | |
| 21D3-41B | | | 1 | 5 | | | 1 | 1 | 3 | | 1 | | |
| 21D3-41C | | | 1 | | | | | | | | | | |
| 21D3-41D | | | | 1 | | | | | | | | | |
| 21D3-41E | | | 1 | 2 | | | | 1 | | 1 | | | |
| 21D3-41F | | | | | | | | | | | | 1 | |
| TOTALS | | 2 | 10 | 19 | 1 | 2 | 2 | 4 | 4 | 2 | 1 | 1 | 5 |
| 21C4-23 | PRAIRIE | | | | | | | | | | | | 5 |

Contrasting the Slope Woodland with the Post Oak Flats, it can be seen that the number of sites increases significantly per unit area in the Slope Woodland (.32 sites per acre) as opposed to the Post Oak Flats (.07 sites per acre).

No real differences are noted in the average cobble composition of the sites. The cobble count averages 1.3 per site in the Post Oak Flats as compared to 1.5 in the Slope Woodland. If the assumption favored here is essentially correct and these cobble materials relate primarily to nut processing and secondarily to other plant food processing, then it is significant that the density of cobble bearing sites is well over four times as high in the Slope Woodland as in the Post Oak Flats. It is particularly important that there is a total lack of cobble in the Prairie zone where no trees or very few trees would be present.

It should not be implied that the plant food resources of the Slope Woodland are necessarily four times greater than those of the Post Oak Flats and that the Prairie is totally lacking in these resources. It is likely that the plant foods of the zones in question differ in the manner in which they were exploited. The processing of some resources, such as nuts, left readily identifiable remains in the form of cobble while less difficult to extract foods such as berries or wild seeds left no cultural remains.

Unfortunately no comparative frequency of occurrence of nut tree species can be made for the Post Oak Flats as opposed to the Slope Woodland. However, the assumption that trees in the Post Oak Flats were smaller in size and more widely spaced than those of the Slope Woodland is felt to be valid.

It is apparent that the Slope Woodland has a greater density of cobble-bearing sites than the Post Oak Flats. The average composition of sites in terms of cobble count is not significant. Based on the remains of prehistoric exploitative activities as indicated by cobble alone, it is felt that the Slope Woodland and the Post Oak Flats are two distinct environmental zones.

When chert materials are considered, a difference in the average composition of sites is observed. There are .15 chert items per site in the Post Oak Flats and .54 chert items per site in the Slope Woodland. However, if unaltered chert items are omitted, there are no chert items in the Post Oak Flats while .50 chert items remain per site in the Slope Woodland. The density of total chert-bearing sites for the Post Oak Flats is only .01 sites per acre while in the Slope Woodland the density of total chert bearing sites is .09 sites per acre. No speculation will be made concerning the exact activities related to the chert items recovered.

In a generalized way they must relate to at least cutting and scraping activities.

From the evidence of chert alone an observed difference exists in the remains of prehistoric exploitative activities as evidenced by the differential density of chert materials in the Post Oak Flats and the Slope Woodland. Again, as with cobble materials, the Slope Woodland has a higher density of chert-bearing sites, but most importantly the average chert composition of the sites in the Slope Woodland is quite different than that of the Post Oak Flats.

Site 21D3-43 deserves special mention. It is located in the Post Oak Flats and represents a unique type of site among all the sites located and identified as intersite activity areas. Its size is the largest of any of the activity areas (see Table 3). Within the limits of scatter on the site there occur two large circular soil stains. Each is ten meters in diameter, yet they are located only six or seven meters apart. Each stain produced a quantity of burned limestone. No charcoal or debris other than that listed in Table 3 was recovered from the surface. What activities this site may represent are unknown. There appears to be an indication of sub-surface disturbance, perhaps some type of pit or other temporary feature. The amount of scatter on the site is too light to postulate any long period of activity at this location.

TABLE 3: SELECTED DATA ON INTERSITE ACTIVITY AREAS

| SITE NUMBER | DIMENSIONS OF SITE--SQUARE METERS | ENVIRONMENTAL ZONE | | | | VISIBLE ORGANIC STAINING OF SOIL: PRESENT OR ABSENT | GROUND VISIBILITY AT DATE OF SURFACE COLLECTION: PERCENT | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | POST OAK FLATS | SLOPE WOODLAND | BOTTOMLAND FOREST | PRAIRIE | | | |
| 21C4-12 | n.a. | X | | | | A | 80 | |
| 21C4-13 | n.a. | X | | | | A | 80 | |
| 21C4-15 | n.a. | X | | | | A | 80 | |
| 21D3-11 | n.a. | X | | | | A | 60 | |
| 21D3-15 | n.a. | X | | | | A | 90 | |
| 21D3-42 | n.a. | X | | | | A | 100 | |
| 21D3-43 | 900 | X | | | | P | 100 | Two circular stains are present. |
| 21C4-16 | n.a. | | X | | | A | 30 | |
| 21C4-17 | 225 | | X | | | A | 40 | |
| 21C4-19 | n.a. | | X | | | A | 30 | |
| 21C4-20 | 400 | | X | | | A | 100 | |
| 21C4-22 | 375 | | X | | | A | 30 | |
| 21D3-14 | n.a. | | X | | | A | 80 | |
| 21D3-26 | n.a. | | X | | | A | 40 | |
| 21D3-28 | n.a. | | X | | | A | 40 | |
| 21D3-29 | n.a. | | X | | | A | 40 | |
| 21D3-30 | n.a. | | X | | | A | 40 | |
| 21D3-31 | n.a. | | X | | | A | 40 | |
| 21D3-33 | n.a. | | X | | | A | 40 | |
| 21D3-37 | n.a. | | X | | | A | 100 | |
| 21D3-38 | n.a. | | X | | | A | 100 | |
| 21D3-39 | n.a. | | X | | | A | 100 | |
| 21D3-40 | n.a. | | X | | | A | 100 | |
| 21D3-41A | 64 | | X | | | A | 100 | |
| 21D3-41B | 200 | | X | | | A | 100 | |
| 21D3-41C | n.a. | | X | | | A | 100 | |
| 21D3-41D | n.a. | | X | | | A | 100 | |
| 21D3-41E | 200 | | X | | | A | 100 | |
| 21D3-41F | n.a. | | X | | | A | 100 | |
| 21C4-23 | n.a. | | | X | | A | 80 | This site is probably of historic origin. |

n.a.: Not applicable, less than 25 square meters.

## Summary

Evidence from intersite activity areas, based on differential density of total sites, on the densities of cobble and chert-bearing sites and on the average chert composition of the sites, shows that prehistoric exploitation of the Slope Woodland and the Post Oak Flats was different in terms of the intensity and types of activities which left observable remains on the landscape.

Many questions need to be raised at this point. One of the most urgent is, do materials recovered from intersite activity areas actually represent the exploitation of resources derived from the zone in which the materials occur? It could be that processing of raw materials derived from the Bottomland Forest zone took place on rises in the nearby Slope Woodland area adjacent to the alluvial bottomlands. If so, rather than be transported to small scattered locations throughout the Slope Woodland area, the raw materials to be processed would likely be transported to a more centralized location along the margins of the alluvial bottomland. Indeed such areas appear to exist. Site numbers 21D3-27, 21D3-32 and 21C4-21 are examples of sites which appear to be composed predominantly of cobble and to a lesser extent of chert, but which are much larger in area than any of the intersite activity areas which have been identified.

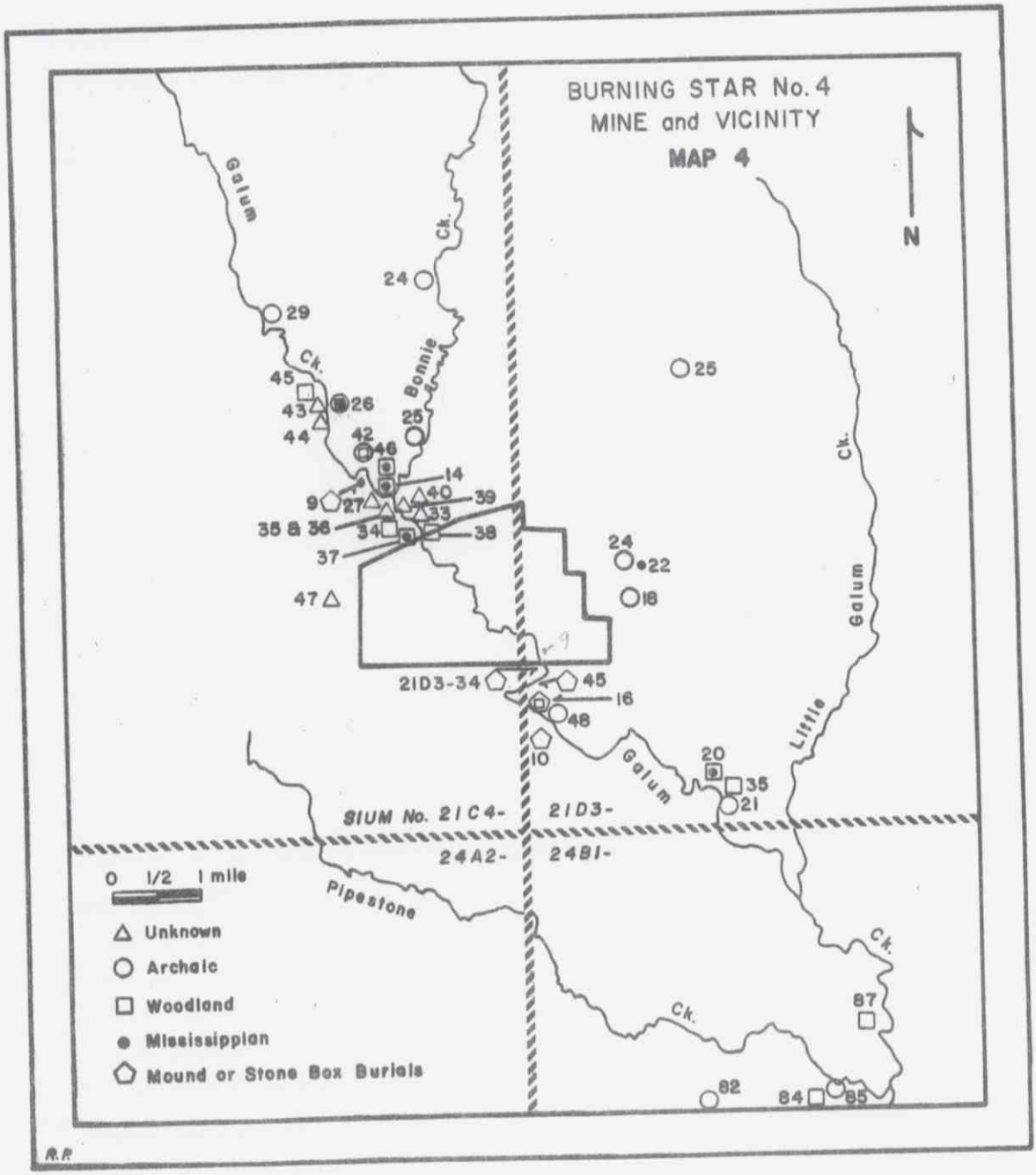
Another question concerns the relationship of intersite activity areas to nearby large sites. Does the concentration of intersite activity areas relate more to the distance from larger sites or to the resources of the environmental zone in which they occur?

Also, a question of variation within zones is important. In the Slope Woodland nearly all of the areas walked for this study were on the Slope Woodland-Bottomland Forest margin. Very little area was explored in the upper portions of the minor stream valleys where the Slope Woodland is bordered by Prairie. This was due to ground cover conditions in the upper stream valley areas.

Finally, do all cobble materials relate to plant food processing? Certainly pitted cobbles and the metate suggest this. However, many alternative uses could be postulated for the remaining cobble.

Obviously a more complete sampling and a more sophisticated manipulation of the data would be necessary to provide answers to many of the questions raised here. A functional study of cobble materials combined with some time consuming experimental work would add to the understanding of many of the problems.

Until further archaeological research is undertaken, it is assumed that the newly established Slope Woodland zone


BURNING STAR No. 4
MINE and VICINITY
MAP 4
N
Galum Ck.
Bonnie Ck.
Galum Ck.
Little Galum Ck.
Pipestone Ck.
Ck.
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24
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37
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22
18
21D3-34
45
16
48
10
20
35
21
SIUM No. 21C4-
21D3-
24A2-
24B1-
0 1/2 1 mile
Unknown
Archaic
Woodland
Mississippian
Mound or Stone Box Burials
87
82
84
85
R.F.

is a workable and valid cultural-environmental zone for the Burning Star mine area and vicinity.

## SITES OUTSIDE THE MINE AREA

Site locations were recorded either when the site could be visited by the field crew or when a combination of plat book, aerial photo, and topographic map checks on the location could be made. The latter was responsible for only 10 percent of the site locations and was used only when the informant had kept written records of the location and had available a catalogued collection which could be photographed.

Although no Archaic occupations were verified from surface collections, examination of materials in local catalogued collections allowed twelve sites to be assigned to the Archaic. Site 21D3-25 produced a large number of Early Archaic Dalton points as seen in the collection of one informant. Five of the seven Dalton points from this site showed right beveling. Three of these five were nearly identical stylistically.

No discussion of other projectile point varieties will be attempted since the sample from photographed collections is not large enough to allow significant groupings to be made.

Surface collections verified Middle Woodland Crab Orchard occupations on sites 21D3-20, 24B1-87 and 24B1-84.

Sites 21D3-20 and 24B1-87 produced Crab Orchard Fabric Marked body sherds. Site 24B1-84 produced a probable Crab Orchard Cord Marked body sherd. Crab Orchard Fabric Marked ceramics were observed in one uncatalogued collection and were reported to have been found on sites in the Pipestone Creek drainage, a tributary of Galum Creek.

Late Woodland occupations were verified by surface collections on sites 21C4-14, 21D3-16 and 21D3-20. The collections from these sites is small. The few rim sherds recovered are most closely associated with Raymond ceramics. One site, 21C4-38, was identified as Late Woodland based on a bird effigy projectile point in a private collection.

Mississippian shell tempered ceramics were collected from sites 21D3-20 and 21C4-14. At both sites only two or three smoothed body sherds were recovered. Site 21D3-22 is now destroyed by treasure hunters; however, a single house depression was reported for this location. When it was destroyed,a mississippian shell tempered pottery trowel was found along with one celt and one discoidal. A wall trench was reportedly encountered, but no information of a detailed nature was recalled about the shape of the house. Nearby on the slope of the ridge on which this site occurs is an area where there appear to be excavations into the side of the hill. Some of these areas approach 120 square meters in

size and are not known to be modern. No glacial drift chert or other rock was noted in these excavations. Their location and character rule out the possibility of natural erosion as an agent in their formation.

One informant recalled that at site 21C4-9 stone box burials were opened many years ago by local residents. Although the informant was not present to see any materials removed from the burials, he recalled visiting the area soon after the burials were opened and gave a description of their layout. A central burial was apparently given special treatment. Radiating from this burial "like the spokes of a wheel" were other stone box burials. The entire area was approximately 40 feet in diameter. One other stone box burial site was verified outside the mine area at site 21D3-10.

The following, Table 4, presents data on soil associations and cultural affiliation for sites outside the Burning Star No. 4 Mine. Cultural affiliation based on information in private collections and on verbal data supplied by informants appears in capitals. Lower case letters are used for cultural affiliation when based on data gathered by the survey team at the site.

TABLE 4
SITES OUTSIDE MINE AREA

| Site Number | Cultural Affiliation | Soil Association |
|---|---|---|
| 24B1-82 | ARCHAIC | BW (Bluford-Wynoose) |
| 24B1-84 | ARCHAIC & MIDDLE WOODLAND | BW |
| 24B1-85 | ARCHAIC | BW |
| 24B1-87 | Middle Woodland | BB (Bonnie-Belknap) |
| 21C4-9 | Mississippian | ABBB (Ava-Bluford-Blair-Belknap) |
| 21C4-14 | Late Woodland & Mississippian | ABBB |
| 21C4-24 | ARCHAIC | ABBB |
| 21C4-25 | ARCHAIC | ABBB |
| 21C4-26 | ARCHAIC, WOODLAND & MISSISSIPPIAN | ABBB |
| 21C4-27 | (Unknown) | ABBB |
| 21C4-33 | (Unknown) | ABBB |
| 21C4-34 | WOODLAND | ABBB |
| 21C4-35 | (Unknown) | ABBB |
| 21C4-36 | (Unknown) | ABBB |
| 21C4-37 | WOODLAND & MISSISSIPPIAN | ABBB |
| 21C4-38 | LATE WOODLAND | ABBB |
| 21C4-39 | (Unknown) | ABBB |
| 21C4-40 | (Unknown) | ABBB |
| 21C4-42 | ARCHAIC & WOODLAND | ABBB |
| 21C4-43 | (Unknown) | ABBB |
| 21C4-44 | (Unknown) | ABBB |
| 21C4-45 | WOODLAND | ABBB |
| 21C4-46 | WOODLAND & MISSISSIPPIAN | ABBB |
| 21D3-10 | Mississippian | HAB (Hickory-Ava-Belknap) |
| 21D3-18 | ARCHAIC | HAB |
| 21D3-20 | Middle Woodland, Late Woodland & Mississippian | HAB |
| 21D3-21 | ARCHAIC | HAB |
| 21D3-22 | MISSISSIPPIAN | ABBB |
| 21D3-24 | ARCHAIC | BW |
| 21D3-25 | ARCHAIC | BW |

TABLE 4
SITES OUTSIDE MINE AREA (continued)

| Site Number | Cultural Affiliation | Soil Association |
|---|---|---|
| 21D3-34 | (Unknown) | HAB |
| 21D3-35 | Late Woodland | HAB |
| 21D3-45 | (Unknown) | HAB |
| 21D3-48 | ARCHAIC | HAB |

## SUMMARY AND CONCLUSIONS

Paleo-Indian occupations could not be verified except at one site in Jackson County in the extreme southern portion of the Galum Creek drainage. This site is not discussed here, but is on file at the Southern Illinois University Museum.

The Archaic Period has not been temporally divided. Early Archaic projectile points observed in collections from the Galum Creek drainage were represented predominantly by Dalton and Dovetail variety points. Hardin Barbed and Thebes points occurred less frequently.

There is no evidence for Early Woodland Period occupations at the present time.

Middle Woodland Period data is presently very limited; Crab Orchard ceramics being present in the area.

Due to excavations at the Brune and Burning Star sites the data on Late Woodland and Mississippian Period occupations is more complete. If the apparent density of stone box

burial sites is any indication, a substantial Mississippian occupation may be present in the drainage system.

Certainly more data is needed from surface collections within the Galum Creek Drainage in order to define the prehistoric occupations in more detail.

# SALVAGE EXCAVATIONS AT THE BRUNE SITE (21D3-9)

## INTRODUCTION

Without the quick thinking and good judgment of Mr. Steve Stocks of Consolidation Coal Company this brief glimpse of prehistoric life along Galum Creek some 400-700 years ago would not be possible. On the morning of March 21, 1973 Mr. Stocks called the writer and reported that bulldozing and drag line operations had exposed human bone at the Brune site. The writer left for the area immediately in order to assess the situation. Most of the site had been disturbed or destroyed by construction activities but enough of the site remained to warrant a limited investigation. The results of emergency excavation carried out at the Brune site March 22 and 23 constitute the following report. Although the data presented is very scanty for what was potentially an important archaeological site, the fact that it was reported by Mr. Stocks and that the site is now part of the archaeological record is a contribution.

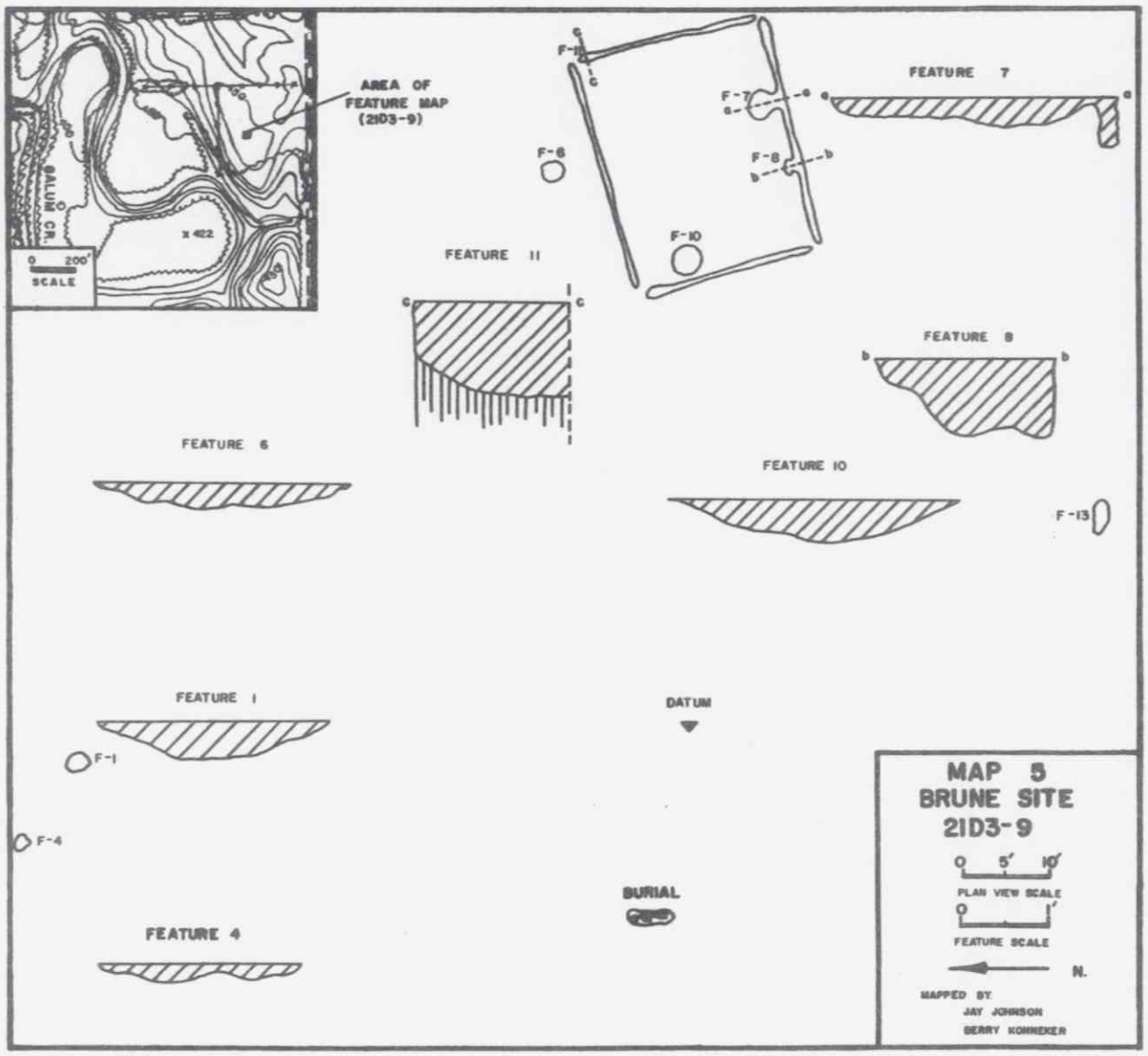
## SITE DESCRIPTION

The Brune site occupies a level ridge 25 feet above the flood plain of Galum Creek at an elevation of 450 feet above sea level, to the west the terrain slopes to an abandoned meander loop. North and east of the site the terrain is level to gently rolling, on the south, the ridge slopes gently to a shallow ravine.

Based on current soil information and Ray Zoanetti's environmental research in this volume the Brune site is situated in the Slope Woodland-Post Oak Flats ecotone. However, soil profiles exposed at the Brune site indicate a surface zone of .8 to 1.0 foot of very dark soil suggesting formation under prairie vegetation. The implications of this observation relative to Mississippian settlement-subsistence patterns in this area will require additional data. What is apparent is that settlements in environmental transition zones would seem to offer optimal resource potential.

## EXCAVATION TECHNIQUES

As previously mentioned 21D3-9 was badly disturbed by the time our party arrived on the site. The southern half of the site had already been removed and approximately .2 to .3 of a foot had been removed from the surface of the eastern


AREA OF FEATURE MAP (21D3-9)
SALUM CR.
x 422
0 200'
SCALE
F-7
F-8
F-10
F-6
FEATURE 7
FEATURE 11
FEATURE 8
FEATURE 6
FEATURE 10
F-13
FEATURE 1
F-1
F-4
DATUM
BURIAL
FEATURE 4
MAP 5
BRUNE SITE
21D3-9
0 5' 10'
PLAN VIEW SCALE
0 1'
FEATURE SCALE
N.
MAPPED BY
JAY JOHNSON
BERRY KONNEKER

half of the site. In addition the western half of the site was buried under the spoil pile created by the drag line operation. These factors provided a limited area approximately 150 by 260 feet in which to carry out our investigations. Given these circumstances the bulldozer was used to expose features followed by hand excavation. Each pit feature was excavated by troweling.

## DISCUSSION OF FEATURES AND STRUCTURES

In most cases the features were easily defined as dark, organically rich stains containing a variety of cultural debris. As indicated in Table 5 the Mississippian features were more productive than were the Late Woodland features. The pit features were oval to round in plan view and approximate shallow basins in cross section. The original or primary function of these pits is not known but their final function was obviously that of trash repositories.

Structure 1 represents a Mississippian wall trench house. Faint traces of the wall trench were first observed and later defined with the aid of the bulldozer. The structure measured 26 feet east-west, 21 feet north-south and the wall trench ranged from .9 to 1.0 foot in width. A longitudinal cross section (F-11) at the northeast corner of the wall trench failed to reveal evidence of post molds. (Profile

## TABLE 5*
## PIT FEATURE DATA 21D3-9

| Feature Number | Maximum Dia. (feet) | Maximum Depth (feet) | RIM SHERDS | | BODY SHERDS | | | | | Chert Debitage | Limestone | Weathered Dolomite | Misc. Rock | Wood Charcoal | Daub | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | GRIT | | SHELL | | | | | | | | | |
| | | | Grit | Shell | CM | CM/S | S | Po | CM | | | | | | | |
| 1 | 2.9 | .45 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 13 | 92 | 0 | P | 0 | LATE WOODLAND |
| 4 | 2.5 | .15 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 10 | 0 | P | 2 | LATE WOODLAND |
| 6 | 3.0 | .45 | 0 | 3 | 0 | 0 | 57 | 2 | 10 | 9 | 10 | 0 | 715 | P | 47 | MISSISSIPPIAN: Additional specimens from this feature include: 3 fragments of malachite, 1 sample of galena, 1 loop handle and samples of charred hickory (Carya) and walnut (Juglans) hulls. |
| 7 | 3.2 | .40 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 53 | 0 | 0 | P | 0 | MISSISSIPPIAN |
| 8 | 2.0 | .90 | 0 | 0 | 4 | 0 | 5 | 0 | 1 | 4 | 360 | 0 | 0 | P | 0 | CULTURAL AFFILIATION NOT CLEAR |
| 10 | 3.4 | .50 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 1 | 625 | 0 | 255 | P | 0 | MISSISSIPPIAN* |
| 12 | N.D. | | 0 | 0 | 0 | 0 | 9 | 0 | 0 | N.D. | | | | | | MISSISSIPPIAN: This feature was discovered by Mr. Bob Conners before we arrived at the site but indications are that it was a Mississippian period burial. Mr. Conners showed us a pottery trowel and pitted manno from this feature. |
| 13 | 3.5 | .30 | 0 | 2 | 1 | 0 | 12 | 0 | 0 | 0 | 350 | 0 | 0 | P | 0 | MISSISSIPPIAN |
| TOTALS: | | | 1 | 6 | 10 | 1 | 103 | 2 | 11 | 16 | 1141 | 102 | 970 | | 49 | |

*Limestone, dolomite, misc. rock and daub are recorded by weight in grams; other categories are by count.

KEY TO ABBREVIATIONS: P = Present; N.D. = No Data; S = Smooth; Po = Polished; CM = Cord Marked; CM/S = Cord Marked and Smoothed.

orientation should be north-south for F-11, Map 5). Had time permitted, a further search may have revealed a post pattern in the wall trench. Due to the construction activity we have no way of knowing if there were additional structures on the site.

## CERAMICS

In addition to the ceramics recovered from pit features, 22 Mississippian sherds and 14 Late Woodland sherds were collected on the scraped areas of the site.

Most of the Mississippians rim fragments are too small to establish vessel forms with any degree of accuracy. However, there are a few diagnostic ceramic types present in the sample. We may view the cord marked shell tempered ware (Plate 2b) as similar to the type Cahokia Cord Marked (Griffin, 1949:55). The salt pan (Plate 3a) is a well known Mississippian form and the plate rim (Plate 3b) should be helpful in establishing a relative date for the Mississippian occupation at the Brune site. At first the plate rim was thought to be similar to the type Wells Fine Incised (Vogel, 1964:52) but, on close inspection the diagonal parallel lines were executed by engraving not incising. The significance of this technological difference will require additional research.

Two additional ceramic artifacts which represent the Mississippian occupation at the site are the pottery trowel from Feature 10 and the smoking pipe fragment from Feature 12.

## LITHICS

Chipped stone tools are represented by the distal portion of two bifacial blades (Plate 1a and b). Specimen (1a) exhibits extreme marginal edge rounding and blunting suggesting use as a reamer or perforator. Mr. Vernon Mayer a nearby resident has an expanded bit, polished hoe (corn gloss) from the site.

There was very little waste chert recovered at the Brune site. In addition to the sample recovered from the features, 57 waste flakes were collected on the scraped surface. Of this sample one flake exhibited utilization retouch and one was a polished hoe flake. These two flakes were also the only debitage from a recognized source; the utilized flake was Cobden chert and the hoe flake, Mill Creek chert. The balance of the debitage apparently represents chert from glacial gravels in the area.

In addition to chipped stone tools and debitage the bit portions of two ground stone celts were recovered (Plate 1c).

## NON-ARTIFACTUAL MATERIAL

As indicated in Table 5 limestone, weathered dolomite and glacial rocks were exploited and utilized by the occupants of the Brune site. Many of the limestone cobbles from the pit features were highly weathered and chalky, possibly the result of heating. The weathered dolomite (George Fraunfelter, personal communication) is a light, porous material which occurs in a variety of colors. This red, tan, brown and yellow dolomite would serve as an ideal pigment or coloring agent.

## BURIALS

Although local residents have suggested that there may have been as many as 30-40 stone box graves at the Brune site, our party was able to investigate only one such interment. From information supplied by Mr. Vernon Mayer the majority of these burials were located on the western half of the site and are now buried under tons of earth.

Burial 1 was almost completely destroyed by the bulldozer activity before we arrived at the site. The blade of the tractor had cut the burial in half leaving only fragmentary and partial skeletal remains. In addition the bone was in a very poor state of preservation.

About the only thing we can be sure of is that the burial was a primary, extended interment. It was oriented

north-south with the head to the north. The rectangular box was constructed of fossiliferous limestone slabs set on edge and covered with thin slabs of slate. Both of these materials were locally available. A single rim sherd in the fill surrounding Burial 1 was Mississippian; no other artifacts were encountered.

## FAUNAL REMAINS

During excavation of this site, some 1,278 specimens of animal remains were recovered. Of that number, 312 (24 percent) were identified to genus level. The author has tended to be conservative in his identifications primarily because of his inexperience and because of lack of comparative material. The total number of specimens is low compared to many faunal studies. However, many interesting features of this assemblage can still be observed. Mammals comprised the most important food source, followed by reptiles, birds, and then fishes.

Squirrels are represented by 66 identified fragments which comprise 47 percent of the definitely identified mammal remains. Squirrels also had the greatest number of individuals (seven) of the mammals. Specific identifications of squirrels were done mainly on the basis of size. The only maxilla was that of a fox squirrel, while the only two

mandibles and many limb bones agreed most definitely with the grey squirrel.

The white-tailed deer remains made up 36 percent of the total identified mammals and only 18 percent of the definitely identified genera. Because of its size, it was still an important source of food, though.

The turkey appears to have been the most important source of avian food. Many of the undetermined bird bone fragments (?) appear to be sections of turkey limb bones.

Box turtle bones far outnumbered those of all other animals and all parts of the skeleton occurred. The author observed only one worked piece of turtle shell.

It appears that aside from being a source of utensils, the box turtle was also a significant source of food. It is interesting to note that all aquatic turtles appear to be absent.

TABLE 6
FAUNAL LIST, 21D3-9*

MAMMALS

| | | Individuals | Items |
|---|---|---|---|
| *Tamias striatus* | chipmunk | 1 | 2 |
| *Sciurus carolinensis* (?) | gray squirrel | 4 | 35 |
| *Sciurus niger* (?) | fox squirrel | 1 | 4 |
| *Sciurus* sp. | squirrel | 2 | 27 |

TABLE 6
FAUNAL LIST, 21D3-9* (continued)

| | | Individuals | Items |
|---|---|---|---|
| | **MAMMALS** | | |
| *Odocoileus virginianus* | white-tailed deer | 4 | 51 |
| Large animal fragments, | probably deer | | 102 |
| *Procyon lotor* | raccoon | 2 | 21 |
| | **BIRDS** | | |
| *Meleagris gallopavo* | turkey | 1 | 3 |
| *Tympanuchus cupido* | Prairie chicken | 1 | 1 |
| *Anatidae*, genus not determined | duck | 1 | 1 |
| Medium to small birds | (?) | (?) | 4 |
| | **REPTILES** | | |
| *Terrapene* sp. | box turtle | 9 | 166 |
| *Terrapene* sp. (?) | box turtle | (?) | 165 |
| Turtle, species undetermined | probably box turtle | (?) | 122 |
| Serpentes, genus undetermined | snake | 1 | 1 |
| | **FISH** | | |
| *Ameiurus* sp. (*Ictalurus*) | Bullhead | 1 | 1 |
| Centrarchidae | Crappie, sunfish bluegill group | 1 | 1 |
| Undetermined fish | | (?) | 7 |

TABLE 6
FAUNAL LIST, 21D3-9* (continued)

UNDETERMINED VERTEBRATES

| | Individuals | Items |
|---|---|---|
| Undetermined bird fragments (?) | | 29 |
| Undetermined ribs | | 53 |
| Undetermined vertebrae (mammal), probably mostly squirrel | | 41 |
| Miscellaneous toe bones | | 18 |
| Possibly identifiable fragments | | 58 |
| Unidentifiable fragments | | 361 |
| Total number of vertebrate fragments | | 1,265 |

MOLLUSCS

| | | |
|---|---|---|
| Genus indeterminable | | 13 |
| | TOTAL SPECIMENS | 1,278 |

SUMMARY AND CONCLUSIONS

Based on the occurrence of ceramic types similar to Cahokia Cord Marked and Wells Incised it appears that the Brune site was occupied sometime between A.D. 1250-1500. This relative date is suggested by the occurrence of both ceramic types in the Sand Prairie Phase at Cahokia (Fowler and Hall, 1972:11).

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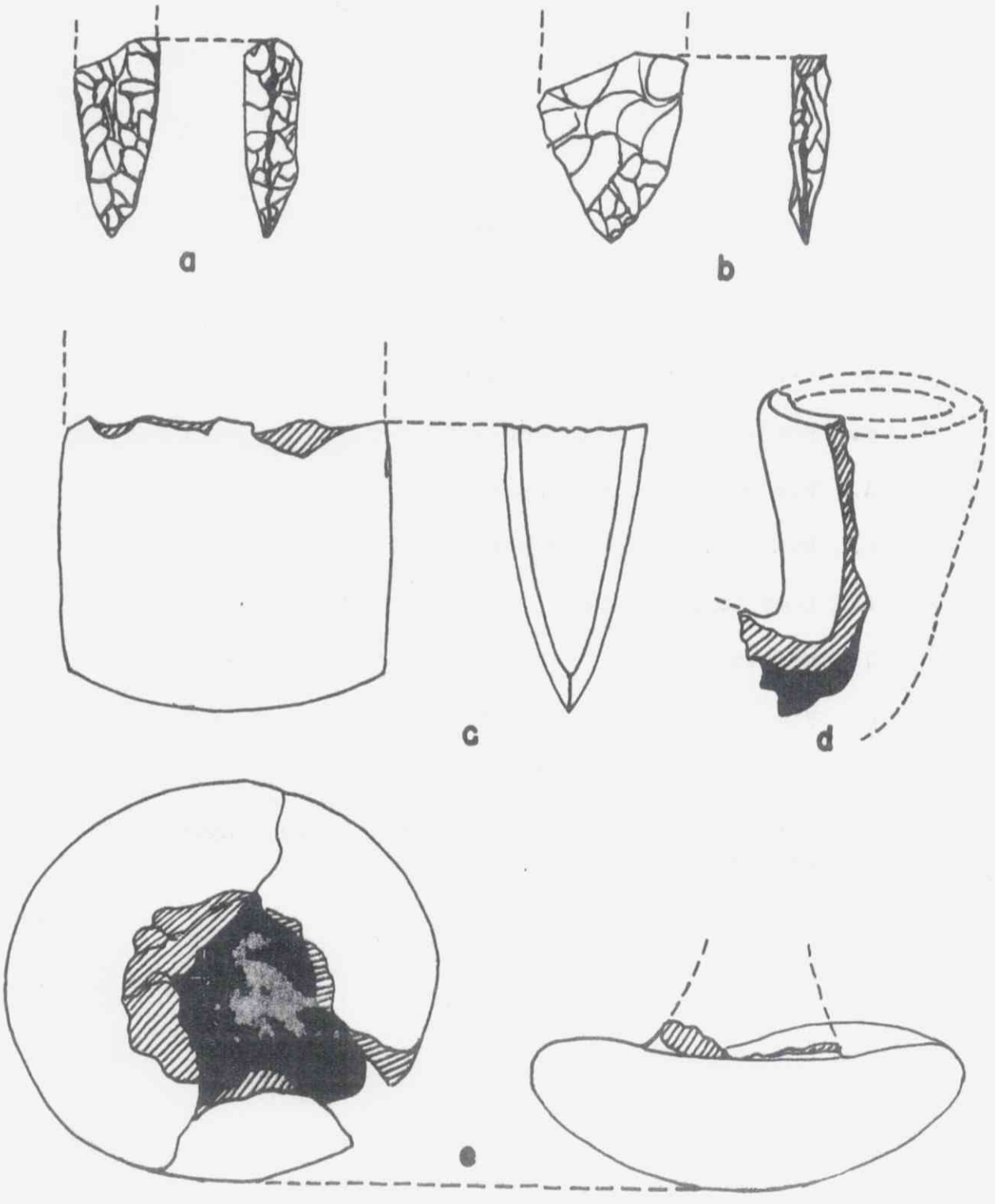
*With the exception of a few large mammal bones recovered from the scraped surface this faunal list represents the Mississippian occupation at the Brune site (Features 6, 7, 10 and 12).

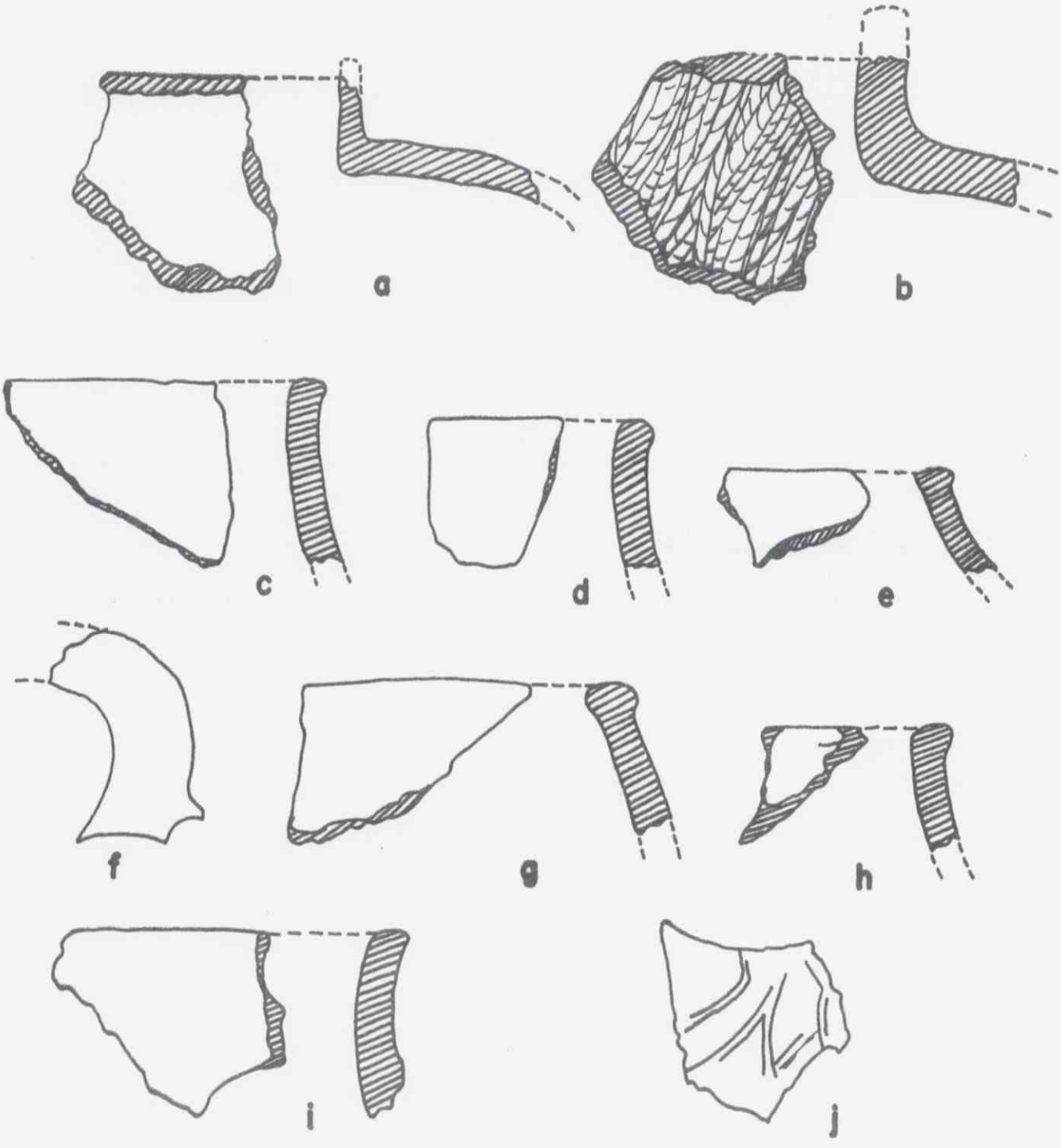
The limited faunal and botanical remains recovered suggests that the Mississippian occupants at the Brune site were engaged in hunting and gathering activities. The hoe and hoe chips mentioned earlier suggests some gardening activities but no direct evidence for horticultural activities in the form of charred corn or other cultigens was recovered.

If future research in the Galum Creek drainage substantiates additional late Mississippian occupations, we may be able to develop testable hypothesis relative to late Mississippian subsistence-settlement patterns in this cultural hinterland.

# PLATE I



# PLATE 2



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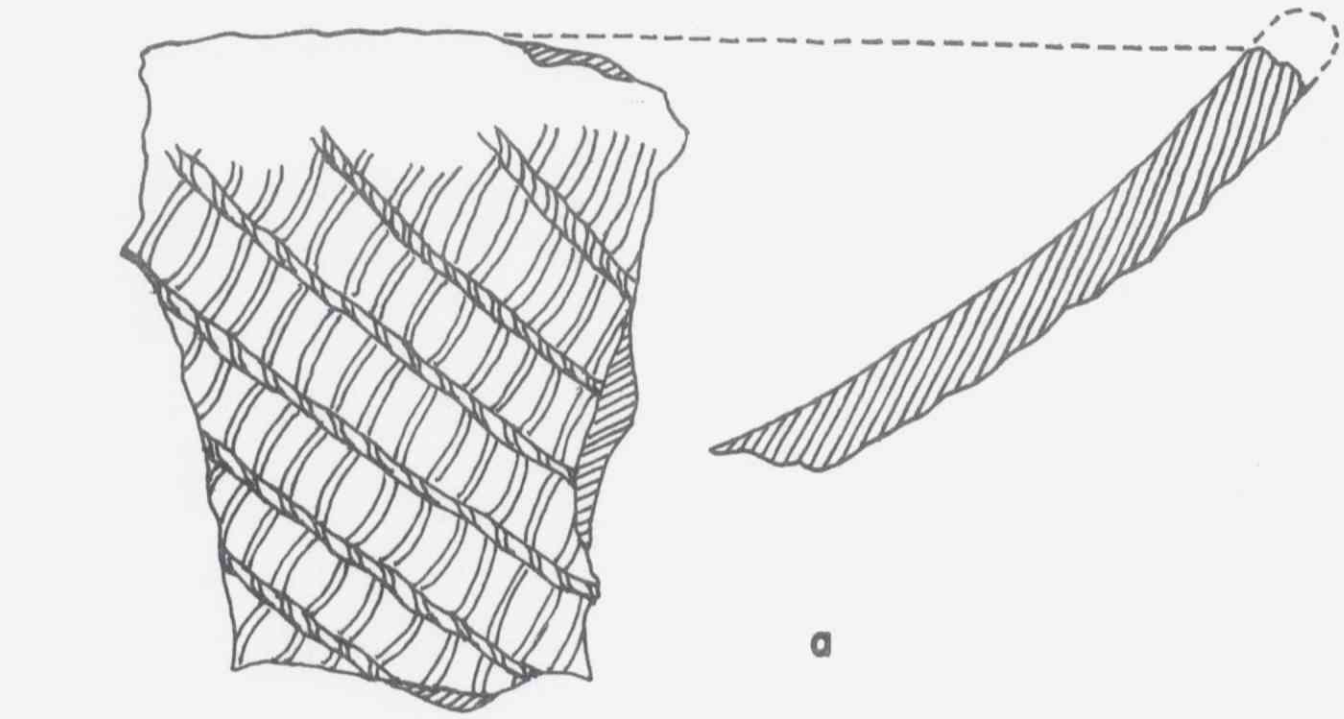
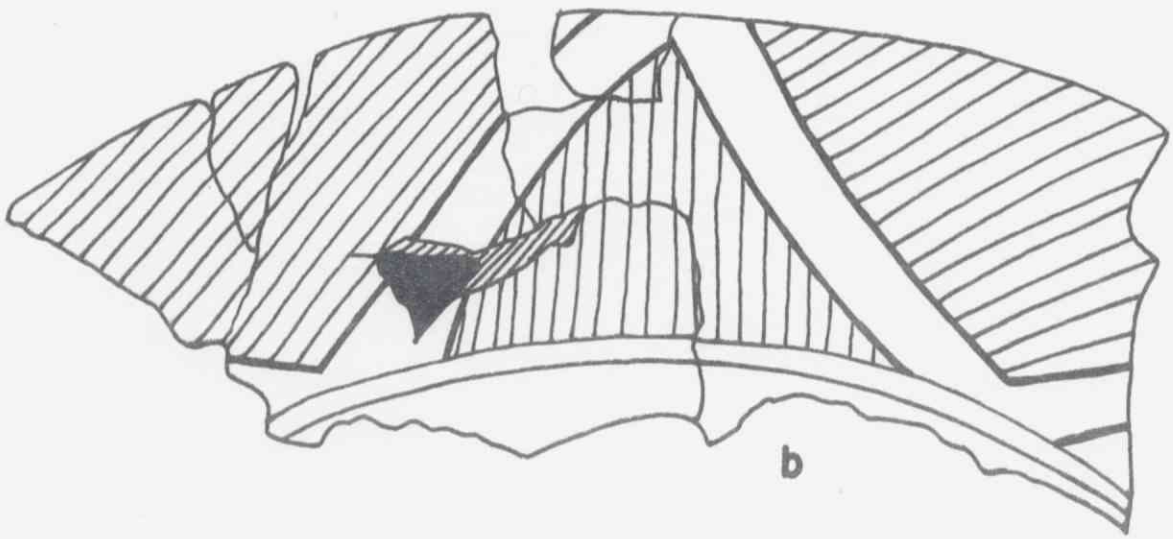


a

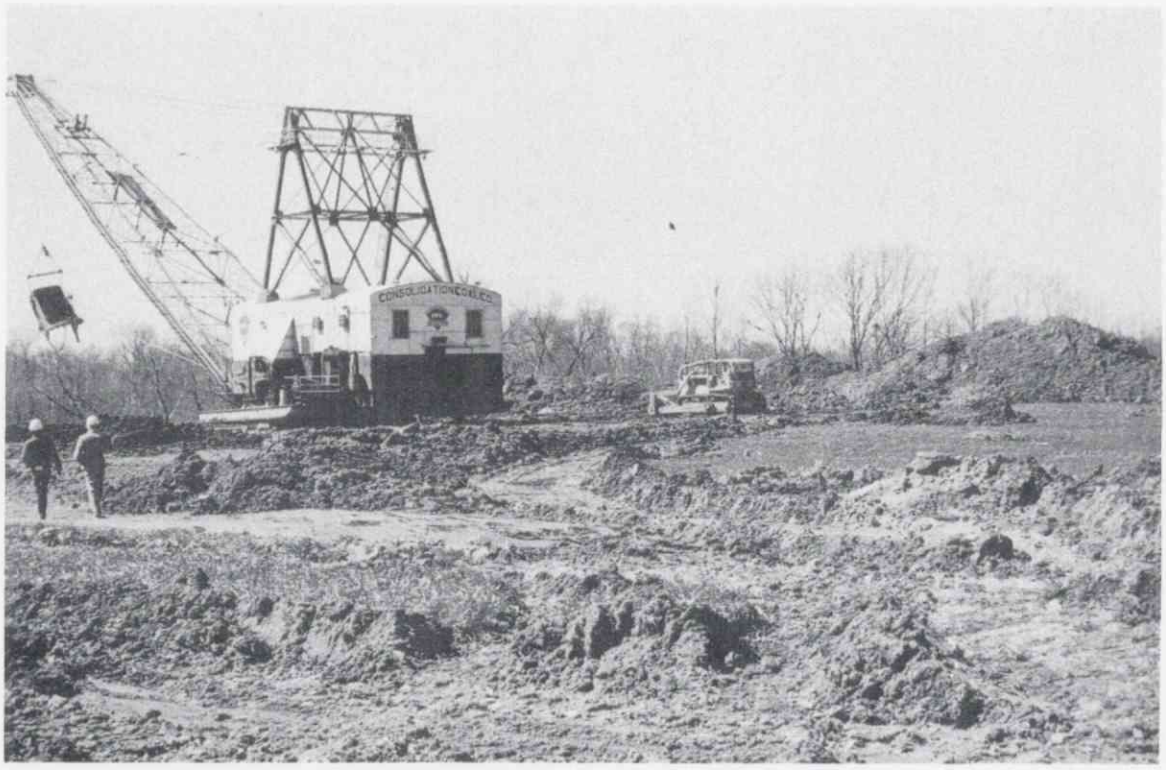


b

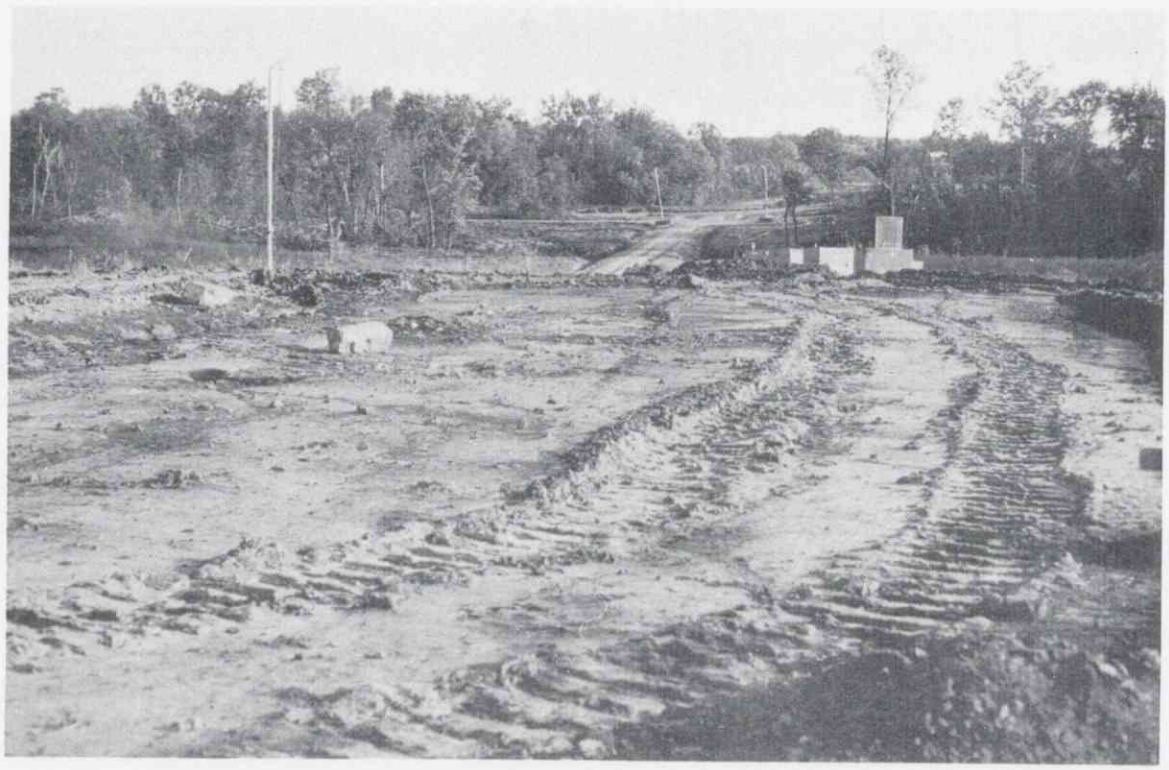
5 cm

AJH

# PLATE 4




21D3-9 Looking SW



21C4-3 Looking South

# SALVAGE EXCAVATIONS AT THE BURNING STAR SITE (21C4-3)

## INTRODUCTION

At the beginning of the survey in the mine area, workers at the mine reported a site partially destroyed by mining operations. The site was visited and found to be on the very edge of the mine pit. After consultation with a number of local amateur archaeologists and workers at the mine, it was determined that a large portion of the site area had already been removed by mining activity. What remained was a small portion of the southwest part of the site. Surface debris contained no diagnostic lithic materials. Ceramics, however, were all of Late Woodland variety.

Work began at the Burning Star site on October 8, 1973, and continued until October 26, 1973. Volunteers were welcomed and with their help a crew which averaged just under four persons per working day was able to investigate a total of 60 features. Of these features 49 could be ascertained as aboriginal and 11 proved to be root, rodent, heavy equipment or other disturbances not related to prehistoric activity at the site.

## SITE DESCRIPTION

The Burning Star site occupied a prominent ridge top immediately east of Galum Creek and approximately one-half mile southeast of the present community of Jamestown, Illinois. The ridge rose 25 feet above the flood plain of Galum Creek. Soils on the site were within the Ava-Bluford-Blair-Belknap Association as described by Miles, Ray and Oschwald (1970). At the point on the ridge occupied by the site the soils would have been either of the Ava or Bluford types.

The site is in the Slope Woodland environment and is surrounded on three sides by the Bottomland Forest environment of the Galum Creek valley. These environmental zones were discussed in a previous section of this report.

## EXCAVATION TECHNIQUES

Use of heavy equipment to strip the disturbed plow zone from the site was considered the most practical means to employ considering the small amount of time available before the entire area was scheduled for removal.

Officials of Consolidation Coal Company were consulted and willingly provided heavy equipment which could be scheduled for use at the site at times when it did not conflict with critical mining activities. A road grader provided most of the heavy equipment needs at the site. A "280" front-end

loader was used to a lesser extent as available. The plow zone was removed from approximately 8,000 square feet of the site. Without the equipment provided by Consolidation Coal Company only a fraction of the area could have been investigated.

As heavy equipment stripped away the plow zone, one crew member followed the machine and noted changes in soil color and watched for the outlines of features to appear.

Hand shoveling generally was limited to the removal of only enough earth to clearly define the limits of the features. When mapped, one-half of the feature was then basined with a trowel. To obtain a profile a mattock was used to trench along the sides and bottom of the basined area to expose three to four inches of sterile soil beyond the margin of the feature. The resulting vertical cut was cleaned and the profile taken. If distinct fill units could be observed, the remaining half of the feature was removed in these units.

Flotation samples were taken from features. Each sample was three liters in volume (troweled fill). Generally only one sample was taken from each feature.

Some large features were not completely excavated due to lack of time. Trenches were placed in these and only selected sections of the feature removed. Feature 31 is detailed in Figure 2. A north-south trench was placed in Feature 47. Feature 42 had only the west half of the fill removed.

81

9 mm = 10'

28 x 60 = 1680

35 x 110 = 3850

5530

6827 sq ft

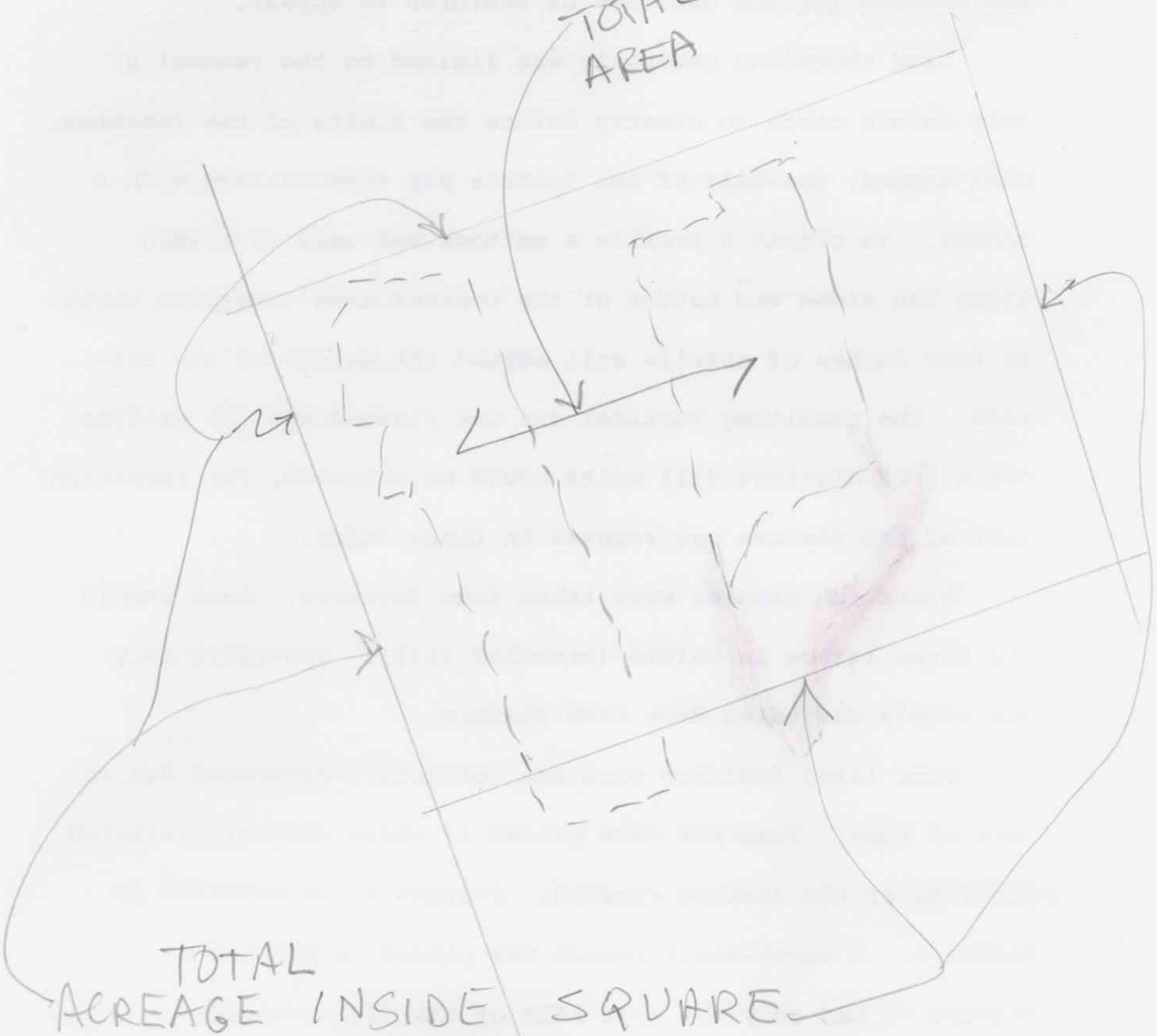
43560

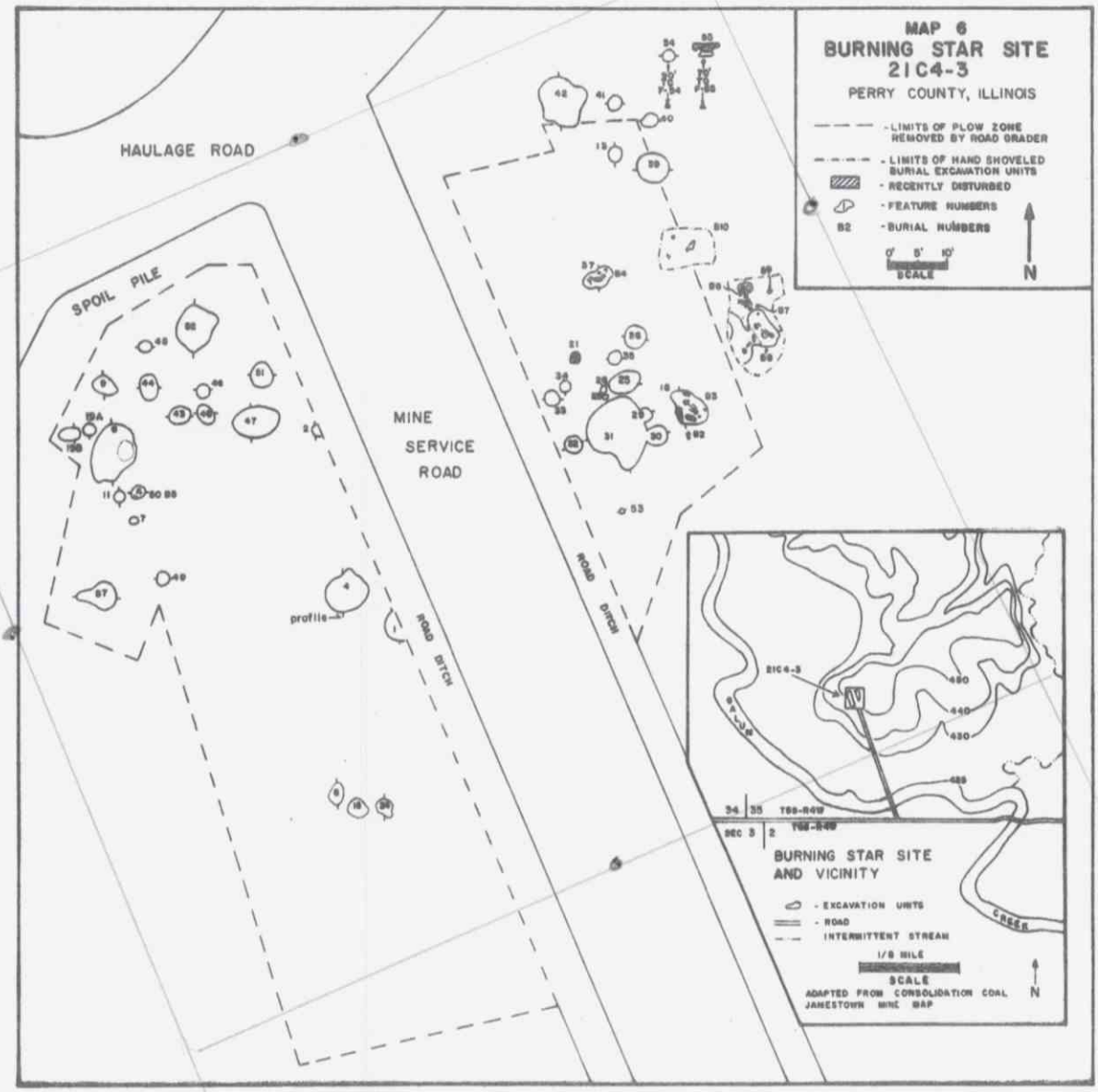
0.156 acres

130 mm

113 mm

.337 acres




MAP 6
BURNING STAR SITE
21C4-3
PERRY COUNTY, ILLINOIS
- LIMITS OF PLOW ZONE REMOVED BY ROAD GRADER
- LIMITS OF HAND SHOVELED BURIAL EXCAVATION UNITS
- RECENTLY DISTURBED
- FEATURE NUMBERS
B2 - BURIAL NUMBERS
0' 5' 10'
SCALE
N
HAULAGE ROAD
SPOIL PILE
MINE SERVICE ROAD
ROAD DITCH
profile
BURNING STAR SITE AND VICINITY
- EXCAVATION UNITS
- ROAD
INTERMITTENT STREAM
1/8 MILE
SCALE
ADAPTED FROM CONSOLIDATION COAL JAMESTOWN MINE MAP
N

Screening of fill was soon abandoned due to the time element involved. Troweling features was not an ideal recovery technique. However, consistent retrieval of larger items was maintained. Recovery of chert fragments or other smaller items was dependent on soil texture, moisture conditions and factors associated with the individual excavator's use of the trowel. Quantitative measures on smaller items are possible where flotation samples were consistently taken.

Due to varying recovery and recording techniques, no consistent data on raw materials (limestone, cobble and shale) was gathered. Consequently, this data is not included.

## PIT FEATURES

The plan view of pit features can be found on Map 6 where the profile orientation is indicated. Pit profiles are illustrated in Figure 1. Dimensions of pit features are given in Table 7.

Since no formal analysis of pit dimensions or contents has been undertaken the following discussion will deal briefly with observations made during the excavation and analysis of the features.

The presence of a small circular pit which was basin-shaped in cross section and which had a shallow depth was noted. However, pits of this general description are not

FIGURE 1

# FEATURE PROFILES 21C4-3

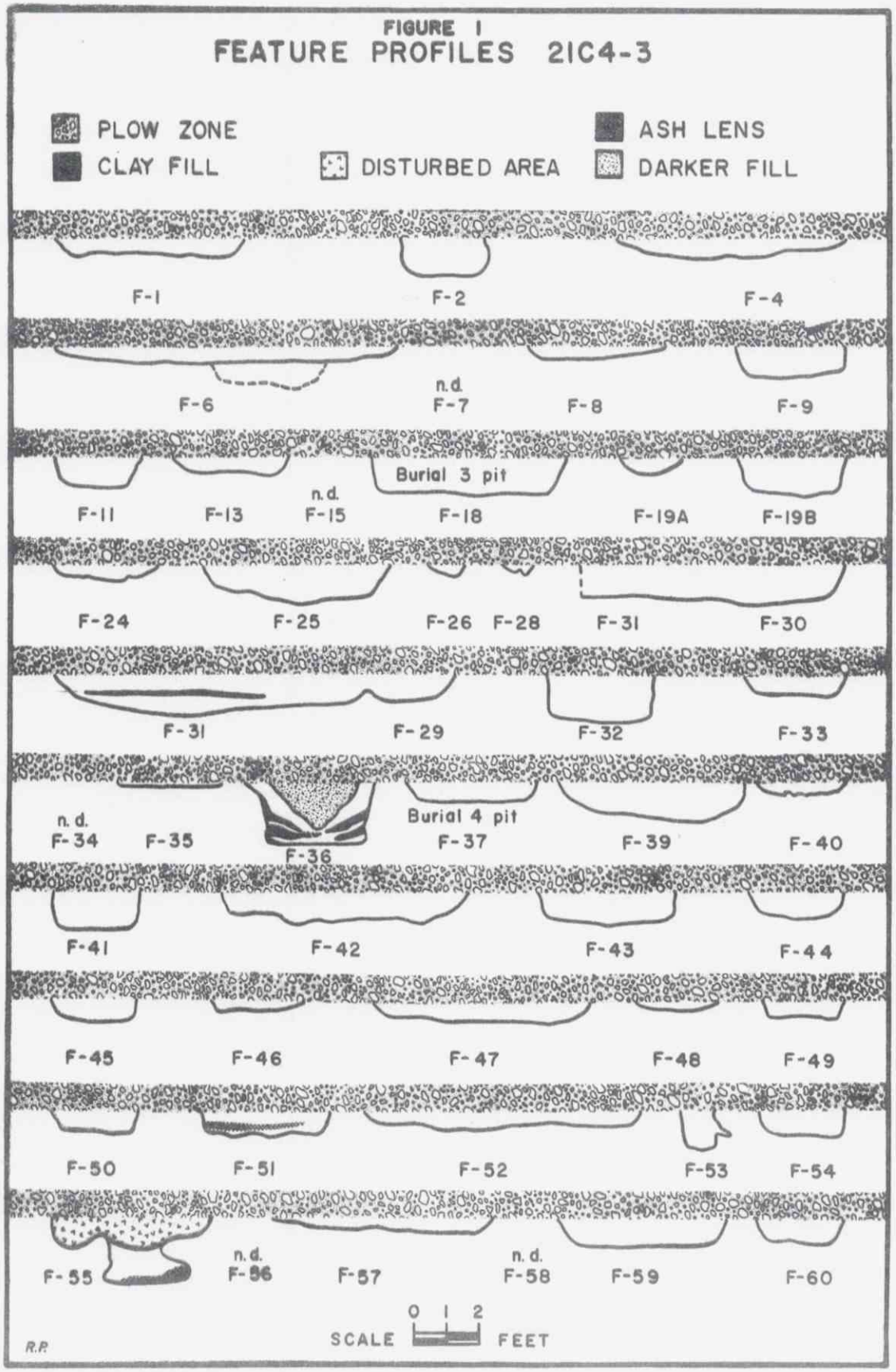


TABLE 7
FEATURE DIMENSIONS, 21C4-3
(Measurements in feet)

| Fea. No. | L | W | D | Fea. No. | L | W | D |
|---|---|---|---|---|---|---|---|
| 1 | 6.2 | 6.2 | .4 | 35 | 2.4 | 2.2 | .1 |
| 2 | 3.2 | 3.2 | 1.3 | 36 | 4.0 | 3.7 | 1.8 |
| 4 | 7.8 | 7.7 | .6 | B 4, 37 | 5.0 | 3.8 | .6 |
| 6 | 9.4 | 7.0 | .4 | 39 | 5.4 | 5.2 | .9 |
| 7 | 1.9 | 1.3 | n.d. | 40 | 2.8 | 2.5 | .4 |
| 8 | 3.8 | 3.0 | .3 | 41 | 2.6 | 2.4 | 1.2 |
| 9 | 3.6 | 3.6 | .9 | 42 | 8.6 | 8.2 | .9 |
| 11 | 2.4 | 2.3 | .9 | 43 | 4.0 | 3.2 | .9 |
| 13 | 2.5 | 2.5 | .6 | 44 | 4.5 | 2.8 | .8 |
| 15 | 4.3 | 3.5 | n.d. | 45 | 2.5 | 2.0 | .7 |
| B 3, 18 | 6.2 | 3.9 | 1.0 | 46 | 2.5 | 2.5 | .3 |
| 19A | 2.2 | 2.0 | .4 | 47 | 8.8 | 5.5 | .6 |
| 19B | 3.7 | 2.6 | 1.0 | 48 | 3.6 | 2.3 | .2 |
| 21 | n.d. | n.d. | n.d. | 49 | 2.5 | 2.3 | .2 |
| 23 | n.d. | n.d. | n.d. | 50 | 2.5 | 2.1 | .6 |
| 24 | 2.8 | 2.5 | .4 | 51 | 4.3 | 3.9 | 1.0 |
| 25 | 5.6 | 3.8 | 1.2 | 52 | 8.0 | 7.2 | .5 |
| 26 | 1.2 | 1.0 | .3 | 53 | 1.1 | .9 | 1.2 |
| 28 | 1.0 | 1.0 | .3 | 54 | 2.6 | 2.5 | .7 |
| 29 | 2.8 | 2.7 | .8 | 55 | n.d. | n.d. | 1.9 |
| 30 | 4.0 | 3.4 | 1.2 | 56 | n.d. | n.d. | n.d. |
| 31 | 12.4 | 10.1 | 1.2 | 57 | 6.6 | 5.0 | .4 |
| 32 | 3.2 | 3.1 | 1.4 | 58 | n.d. | n.d. | n.d. |
| 33 | 3.0 | 2.7 | .6 | B 8, 59 | 7.3 | 3.9 | .8 |
| 34 | 2.1 | 2.0 | .2 | 60 | 2.5 | 2.0 | .6 |

n.d.: No data.

common on the site. Feature 19A is an example of a pit of this group.

Two general types of pits were found with clusterings of limestone along their bases and sides. The first type was a small circular pit, generally shallow in depth and showing cross sections with flat bottoms and sides converging slightly toward the base of the pit. The second type of pit with clusterings of limestone along their floors and sides are oval in plan view. They are slightly deeper than the pits of the first type, yet the profile description of the first type also applies to pits in this group. Feature 50 is a good example of pits of the first type while Feature 19B can be cited as an example of the second type.

Pits which probably served as storage locations were circular in plan view with depths approaching two feet. These were some of the deepest pits recorded on the site. In cross section these pits have sides which are straight to slightly converging near the base. The pits are flat-bottomed and are sometimes slightly flared near the base. Figure 1 illustrates a pit of this type (Feature 36) which had apparently filled by natural erosion before a final dark midden fill was deposited. A similar pit (Feature 55) was apparently filled with midden refuse before being allowed to fill naturally.

Some of the larger circular to irregular shaped features such as Features 4, 6, 42, 47 and 52 may be the remnants of semi-subterranean structures. However, no post mold or wall trench indications were associated with these features.

One smudge pit (Feature 53) was identified. It conforms well to this general class of features as discussed by Binford (1967). This small flat-bottomed pit had a light brown fill with no indications of specific fill units or traces of oxidation at the margins of the pit. However, inclusions were quite unlike that noted in any other feature at the site. Present was a heavy concentration of charred materials with minor inclusions of cultural debris. This cultural debris consisted of small cord marked body sherds and a small number of chert pieces. The charred material included varying amounts of small pieces of charred wood, bark and small twigs. Thin shelled nut hulls were present as well as other charred items that could not be readily identified. A recent rodent disturbance had intruded into one side of the stain and was not entirely refilled with earth at the time of excavation.

Burials pits were oval to rectangular in plan view and had flat bottoms. Two of the burial pits had limestone rocks placed along portions of one or two sides of the pit.

## CIRCULAR STRUCTURE
## FEATURE 31 (Figure 2)

This feature was first identified as a large irregular stain on the grader scraped surface. Two smaller pits (Features 29 and 30) first appeared as part of this large stain. On subsequent investigation, these two smaller pits were distinct from a larger circular stain, which appeared slightly lighter in color than the two small pits.

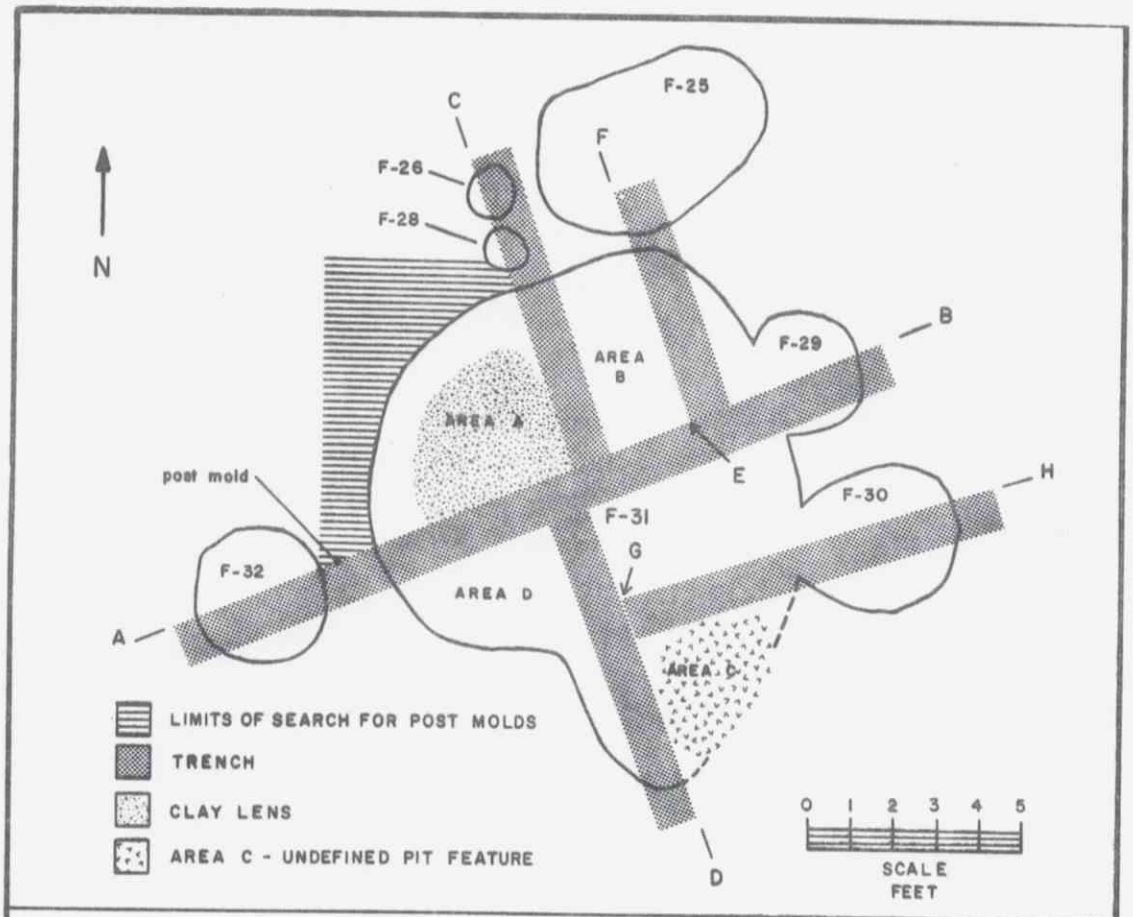
This larger feature was not entirely excavated. Trenches were placed at selected locations to verify the extent of the feature as defined on the grader scraped surface (Figure 2). Selected areas were basined to sterile clay following the placement of the trenches. No adequate definition of the southeastern limits of the feature was obtained.

The trenches placed in Feature 31 allow the following comments.

A dish-shaped prepared pit extended to a maximum depth of 1.2 feet below the scraped surface. This pit had maximum dimensions on that surface of 12.4 feet by 10.1 feet.

A clay lens or floor, at a depth of between 0.5 foot and 0.6 foot below the scraped surface, was encountered in the north wall of Trench A-B.

One post mold, exposed in the north wall of Trench A-B, measured 0.2 foot in diameter and extended 0.4 foot below



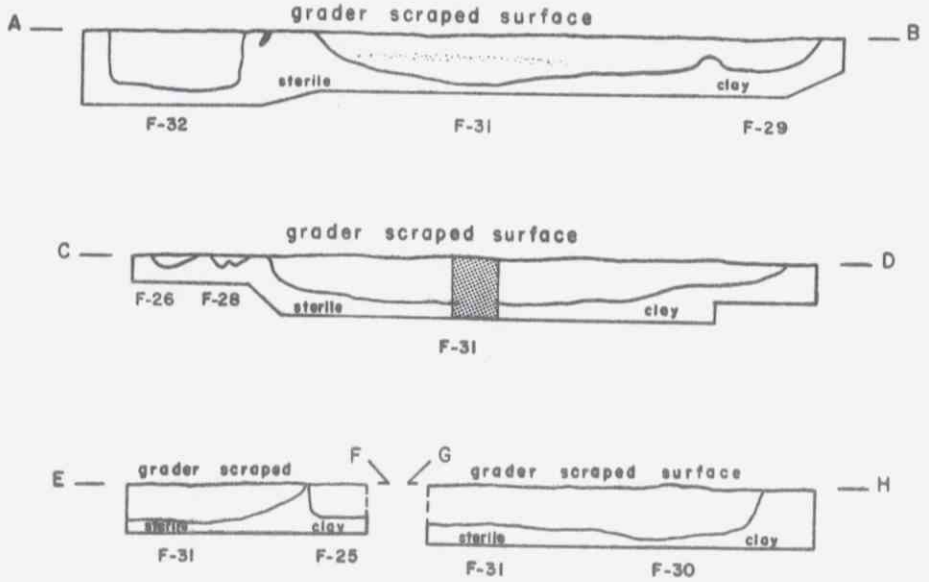




FIGURE 2
CIRCULAR STRUCTURE
FEATURE-31
21C4-3

R.P

the scraped surface. This mold angled slightly toward the prepared pit and was one foot west of the limits of the pit as defined on the scraped surface.

Profile views of Features 29 and 30 at their junction with Feature 31 did not clarify the sequence of occurrence of these features on the site. However, Features 29 and 30 were encountered at a slightly higher level than Feature 31 as the area was scraped.

After trenching, four areas of Feature 31 were chosen for basining. These areas were designated A through D and lie either between trenches or between trenches and the outer margin of the pit (Figure 2).

Area A was first taken down to expose the clay lens or floor which was visible in Trench A-B. The lens continued to become thinner and more mottled as the edge of the pit was approached. The lens was lost in trenches to the east and south. It was not observed in other areas of the pit. Below the clay lens and resting at the very base of the pit in Area A, a small charred twig was collected for radiocarbon dating.

Area B produced one possible, but highly weathered, daub fragment.

Area C was basined revealing a pit feature which extended to a depth of 0.7 foot below the scraped surface. No data

was recorded on the profile of this pit or its relationship to the larger feature. However, surface dimensions on the pit were recorded at a depth of 0.2 foot below the scraped surface. They are 3.8 feet by 2.4 feet as shown in plan view of the area (Figure 2).

Area D revealed a small extension of Feature 31 to the south. As seen in profile and from basining the Area D fill, the extension was not as deep as the fill of the pit proper and gradually rose to disappear at a point 3.8 feet south of the edge of the circular area. The width of the extension was at least 1.5 feet, but it continued into Area C where definition is lacking. The fill of the pit and the extension were entirely homogenous as to observed color, texture and inclusions.

In Areas A, B, and D the base of the prepared pit was hand troweled to sterile soil in order to expose any sub-pit features or post molds. None were observed.

A small area was opened along the northwestern margin of the pit in hopes of discovering more post molds, none were encountered. Post molds may have been overlooked considering the small amount of area opened and the sun-baked condition of the soil at the time.

No evidence of burning of the structure was encountered. The clay lens were not fired nor were there indications of

charred material noted at other than the location already mentioned in Area A. No internal features of the prepared pit were defined during excavation other than the clay lens and the small extension of the pit.

Excluding Area C, the following items were recovered from Feature 31:

a. Twenty-one Late Woodland cord marked body sherds.

b. One Late Woodland exterior lip notched (smooth dowel) cord marked rim sherd and one Late Woodland notched lip, cord marked rim sherd.

c. One clay effigy (human ?) fragment (Plate 7h).

d. Sixteen chert pieces, plus seven from flotation.

e. One possible daub fragment.

f. Small but uncounted quantities of:

--fractured cobble
--limestone
--fired clay
--"ochre" (now tentatively identified as weathered dolomite)
--bone (see Table 12)
--nut hulls
--charred wood

Circular structures with prepared pits have been associated with Late Woodland materials in the Carlyle area at the Texas site (Morrell, 1965) and at the Hatchery site (Binford, 1966).

Although Binford (1966:64) believes that the structures at the Texas site are more "squarish to rectangular" than circular, it should be noted that Dillinger and Bluff ceramics were associated with them (Morrell, 1965) while the structures at the Hatchery site are associated with La Motte ceramics.

## FLOTATION

A summary of selected flotation data is presented in Table 8. Each sample taken was three liters in volume. Unfortunately, there are not samples available for all features.

The sample designated 4b is from a concentration of charred material noted on the scraped surface of Feature 4. The concentration measured approximately 2.5 feet in diameter and was only 0.1 foot deep. Sample 4a is from outside this concentration. Sample 36A is from the darker (upper layer) fill of Feature 36. Samples 19A and B are from different pits in the Feature 19 area.

None of the seeds have been identified as of this date.

The predominance of Carya species as opposed to the Juglans species is quite obvious. Only two fragments of walnut hulls were recovered from the site (Feature 57). Consulting Denny's (n.d.:48) frequency of

TABLE 8
FLOTATION SAMPLES, 21C4-3
(Volume = 3 liters)

| Fea. No. | Charred Nut Hulls (count) *Carya* spp. | Charred Wood | Mussell Shell | Bone | Burnt Bone | Chert Count | Pottery | Seeds |
|---|---|---|---|---|---|---|---|---|
| 1 | 7 | P | A | P | P | 7 | P | A |
| 2 | 4 | P | A | P | P | 6 | P | A |
| 4a | 12 | P | A | P | P | 9 | P | P |
| 4b | 149 | P | A | P | P | 5 | P | A |
| 9 | 9 | P | P | P | P | 11 | P | P |
| 11 | 6 | P | P | P | P | 5 | P | A |
| 13 | 6 | P | A | P | P | 2 | P | A |
| 19a | 1 | P | P | P | P | 10 | P | A |
| 19b | 5 | P | A | P | P | 9 | P | P |
| 25 | 4 | P | A | P | P | 11 | P | A |
| 29 | 11 | P | A | P | P | 20 | P | A |
| 31a* | 0 | P | A | P | P | 7 | A | A |
| 31a** | 18 | P | A | P | P | 2 | P | A |
| 32 | 38 | P | A | P | P | 3 | A | A |

TABLE 8 (Continued)
FLOTATION SAMPLES, 21C4-3
(Volume = 3 liters)

| Fea. No. | Charred Nut Hulls (count) *Carya* spp. | Charred wood | Mussell Shell | Bone | Burnt Bone | Chert Count | Pottery | Seeds |
|---|---|---|---|---|---|---|---|---|
| 33 | 6 | P | A | P | P | 0 | A | A |
| 36a | 7 | P | A | P | P | 6 | P | P |
| 37 | 1 | P | A | P | P | 4 | P | A |
| 39 | 9 | P | A | P | P | 4 | P | A |
| 41 | 8 | P | P | P | P | 2 | P | A |
| 42 | 20 | P | A | P | P | 3 | A | A |
| 43 | 0 | P | A | P | P | 3 | P | A |
| 44 | 6 | P | A | P | P | 4 | P | A |
| 45 | 9 | P | A | P | P | 3 | A | A |
| 47 | 16 | P | A | P | P | 4 | A | A |
| 49 | 4 | P | A | P | P | 21 | P | A |
| 50 | 215 | P | A | P | P | 7 | P | A |
| 51[x] | 121 | P | A | P | P | 3 | P | A |
| 52 | 7 | P | A | P | P | 2 | P | A |
| 53 | 16 | P | P | P | P | 3 | P | A |

TABLE 8 (Continued)
FLOTATION SAMPLES 21C4-3
(Volume = 3 liters)

| Fea. No. | Charred Nut Hulls (count) *Carya* spp. | Charred wood | Mussell Shell | Bone | Burnt Bone | Chert Count | Pottery | Seeds |
|---|---|---|---|---|---|---|---|---|
| 54 | n.d. | P | A | P | P | 6 | P | A |
| 55 | 6 | P | P | P | P | 17 | P | A |
| 57 | 7 | P | A | P | A | 12 | P | A |
| 60 | 2 | P | A | P | P | 3 | P | A |

Key to Abbreviations:

P = Present
A = Absent
*: Above clay lens, (F31A)
**: Below Clay lens, (F31A)
x: Sample from ash lens, (F51)

occurrency for Juglans species in the Bottomland Forest, their scarcity in the flotation samples at the Burning Star site is probably to be expected.

Quercus species (oaks) are a major part of the plant community in the area. No charred remains of these nuts were identified (a possible exception may be Feature 51 where a few very thin hull fragments may represent acorns).

Although flotation samples did not indicate the presence of mussel shell, Features 19B, 25, 43, 44 and 57 produced fragments of shell during hand troweling. Feature 6 which lacks a flotation sample also had mussel shell recovered during troweling.

Bone from the flotation samples has been included with the analysis of the faunal data.

## CERAMICS

The categories chosen for analysis of the ceramic data are based entirely on vessel form and decorative treatment. No attempt has been made to deal with tempering variations. Although grit tempering predominated, limestone and grog tempers were present. Miniature vessels had no temper added to the clay; however, these vessels were fired at an apparently wide range of temperatures.

Throughout the classification presented in Table 9 there are certain distinctions which are more arbitrary than others. The distinction between smoothed and cord-impressed lips is perhaps the most subjective since many examples of varying degrees of smoothed-over cord marking were present. The same is true for the distinction of cord marked and smoothed vessel exteriors.

## Jars

A globular jar with a distinct neck-shoulder junction is present. A more conoidal jar form is indicated by several large fragments. It appears that lip notching is more common on the conoidal forms. A straight-sided to slightly-constricted neck form is present although not occurring frequently. A "coconut" form is perhaps present. It could be that the one interior punched and noded bowl rim (Plate 5b) may actually be a jar of this latter form.

Exterior lip modifications include a spouted rim (Feature 52) and small appliques (Features 43 and 44). The example from Feature 43 is a small "pinched" applique on the lip exterior of a cord marked sherd that shows smoothed-over cord marking. The example from Feature 44 (Plate 5c) is a series of small spherical appliques pressed to the exterior lip of a cord marked rim.

TABLE 9
CERAMIC CATEGORIES, 21C4-3*

| Fea. No. | JAR RIMS | | | | | | | BOWL RIMS | | | | RIMS-VESSEL FORM UNK. | | | | | | MINIATURE VESSELS | | | | | BODY SHERDS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rounded or Flattened Lip | | | | | | | Rounded or Flattened Lip | | | | Rounded or Flattened Lip | | | | | | Rims | | | Body Sherds | | | | |
| | Cord marked | | | | | | Sm. | Cord marked | | | Sm. | Cord marked | | | | | Sm. | Smoothed w/ Rounded lip | | | | | | | |
| | ext. lip mod. | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | plain lip | notched at lip | flared at lip | smoothed | cord marked | int. P&N cord marked | cord marked | smoothed |
| 1 | | | | | | | | | | | | | | | | | | 1 | 3 | | | | | 17 | |
| 2 | | | | | | | | | | | | 1 | | | | | | | | | | | | 18 | |
| 4 | | | | | | | | | | | | 1 | | | | | | 1 | | | 1 | | | 20 | |
| 6 | | | | 5 | | | | 6 | 1 | 1 | 1 | 6 | | | | 1 | | | | | 1 | | | 140 | 6 |
| 7 | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | 12 | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | I | |
| 9 | | | 1 | 1 | | | | | | | | 1 | | | | | | | | | | | 2 | 20 | |
| 11 | | | | 1 | | | | | | | | | | | | | | | | | | | | 11 | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | I | |
| Bl 18 | | | | 1 | | | | | | | | | | | 1+ | | | | | | | | | 1 | |
| Bl 18 | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Bl 18 | | | | | | | | | | | | | | | | | | | | | | | | P | |
| 19* | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | 12 | 1 |
| 19A | | | | | | 1 | | | | | | | | | | | | | | | | | | 12 | |

*Fill above and surround Fea. 19A and 19B.
+This rim not cord marked, also has lug.

CM 12-9+1+5
SM 1

TABLE 9 (continued)
CERAMIC CATEGORIES, 21C4-3*

| Fea. No. | JAR RIMS | | | | | | | BOWL RIMS | | | | RIMS-VESSEL FORM UNK. | | | | | | MINIATURE VESSELS | | | | | BODY SHERDS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rounded or Flattened Lip | | | | | | | Rounded or Flattened Lip | | | | Rounded or Flattened Lip | | | | | | Rims | | | | | | | |
| | Cord marked | | | | | | Sm. | Cord marked | | | Sm. | Cord marked | | | | | Sm. | Smoothed w/ Rounded lip | | | Body Sherds | | | | |
| | ext. lip mod. | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | plain lip | notched at lip | flared at lip | smoothed | cord marked | int. P&N cord marked | cord marked | smoothed |
| 19B | | | | | | 2 | | | | | | | | | | 1 | | | | | | | | 25 | |
| 21* | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 23 | | | | | | | | | 1 | | | | | | | | | | | | | | | 6 | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | 1 | | | 3 | | | 15 | |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | 1 | | | | | | | | | | | | | | | | | | 20 | |
| 30** | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | 14 | |
| 31A+ | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| 31A++ | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 31+++ | | | | | | | | | | | | 1 | | | | | | | | | | | | 17 | |
| 31B | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | |
| 31C | | | | | | | | | | | | | | | | | | | | | | | | 8 | |
| 32 | | | | | | | | | | | | | | | | | | | | | | | | 10 | 5 |

*This fea. was potted after grader scraping, only material at surface recovered.

**One cord marked body sherd with ext. cylinderical punctations from this fea., not on chart.

+Above clay lens.

++Below clay lens.

+++Trench A-B.

TABLE 9 (continued)
CERAMIC CATEGORIES, 21C4-3*

| Fea. No. | JAR RIMS | | | | | | | BOWL RIMS | | | | RIMS--VESSEL FORM UNK. | | | | | | MINIATURE VESSELS | | | | | BODY SHERDS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rounded or Flattened Lip | | | | | | | Rounded or Flattened Lip | | | | Rounded or Flattened Lip | | | | | | Rims | | | Body Sherds | | | | |
| | Cord marked | | | | | | Sm. | Cord marked | | | Sm. | Cord marked | | | | | Sm. | Smoothed w/ Rounded lip | | | | | | | |
| | ext. lip mod. | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | plain lip | notched at lip | flared at lip | smoothed | cord marked | int. P&N cord marked | cord marked | smoothed |
| 33 | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 34 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36* | | 2 | | | 1 | | | | | | | | | | | | | | | | | | | 48 | |
| 36A | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | 25 | |
| 36B | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| 36C | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| 36D | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36E | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| B4 37 | | 1 | | | | | | | | | | 1 | | | | | | | | | | | | 14 | |
| 39 | | 1 | | | | | | | | | | | | | 1 | 1 | 1 | | | | | | 1 | 11 | |
| 40 | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| 41 | | | | | | | | | | | | | | | | | | 3 | | | 3 | | | 10 | |
| 42 | 1 | 2 | | | | | | 1 | 1 | | | 2 | | | | | | | | | 1 | | | 46 | 1 |
| 43 | 1 | 9 | | | | | | | | | | 3 | | | | 1 | | 5 | | | 5 | | | 141 | |
| 44 | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | 15 | |
| 45 | | | | | | | | | | | | | | | | | | | | | | | | 8 | |

*One half of feature, all levels mixed.

TABLE 9 (continued)
CERAMIC CATEGORIES, 21C4-3*

| Fea. No. | JAR RIMS | | | | | | | BOWL RIMS | | | | RIMS-VESSEL FORM UNK. | | | | | | MINIATURE VESSELS | | | | | BODY SHERDS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rounded or Flattened Lip | | | | | | | Rounded or Flattened Lip | | | | Rounded or Flattened Lip | | | | | | Rims | | | Body Sherds | | | | |
| | Cord marked | | | | | | Sm. | Cord marked | | | Sm. | Cord marked | | | | | Sm. | Smoothed w/ Rounded lip | | | | | | | |
| | ext. lip mod. | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | plain lip | notched at lip | flared at lip | smoothed | cord marked | int. P&N cord marked | cord marked | smoothed |
| 46 | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 47 | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| 48 | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 49 | | 3 | 3 | | | | | 7 | | | | 2 | | | | | | | | | | | | 168 | |
| B5 50 | | 1 | | | | | | 1 | | | | | | | | | | 1 | | 2 | | 2 | | 18 | |
| 51 | | | | | | | | 1 | | | | | | | | | | | | | | | | 7 | |
| 52 | 1 | 3 | | | | | | | 4 | | | 1 | | | | | | 1+ | | | 4 | | | 54 | 6 |
| 53 | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 54 | | | | | | | | 1 | | | | 2 | 1 | | | | | | | | | | | 30 | |
| 55 | | | | 6 | | | | | | | | | | | | | | 2 | | 2 | 4 | | | 56 | |
| 56A* | | | | | | | | | | | | | | | | | | | | | | | | 5 | |
| 56B* | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 56C* | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| 57 | | | | | | | | | 1 | | | 1 | | | | | | 1 | | | 3 | | | 36 | |
| 58** | | | | | | | | | | | | | | | | | | | | | | | | 4 | |

+This rim shows slight traces of cord marking.
*Each area has fragments of burial 10.
**Burials 6 and 7.

17 + 15 = 7

9.

TABLE 9 (continued)
CERAMIC CATEGORIES, 21C4-3*

| Fea. No. | JAR RIMS | | | | | | | BOWL RIMS | | | | RIMS-VESSEL FORM UNK. | | | | | | MINIATURE VESSELS | | | | | BODY SHERDS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rounded or Flattened Lip | | | | | | | Rounded or Flattened Lip | | | | Rounded or Flattened Lip | | | | | | Rims | | | Body Sherds | | | | |
| | Cord marked | | | | | | Sm. | Cord marked | | | Sm. | Cord marked | | | | | Sm. | Smoothed w/ Rounded lip | | | | | | | |
| | ext. lip mod. | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | int. P&N below lip | sm. lip | sm. lip | c/imp. lip | ext. lip notched | int. lip notched | int. P&N below lip | sm. lip | plain lip | notched at lip | flared at lip | smoothed | cord marked | int. P&N cord marked | cord marked | smoothed |
| B8 59 | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| 60 | | | | 1 | | | | | | | | | | | | | | | | | | | | 30 | |
| TOTAL | 3 | 22 | 5 | 17 | 2 | 4 | 1 | 18 | 8 | 1 | 1 | 24 | 1 | 1 | 3 | 4 | 1 | 16 | 3 | 4 | 25 | 2 | 4 | 1128 | 19 |
| Percent of Total Rims | 38.8 | | | | | | | 20.1 | | | | 24.5 | | | | | | 16.5 | | | | | | | |

ext: Exterior.
int: Interior.
sm: Smoothed.
c/imp: Cord impressed.
c/m: Cord marked.
P&N: Punched and noded.
Mod: Modification.

Lip notching occurred only on jars when the sherd could be assigned to a specific vessel form category. All lip notching was accomplished with the application of a smooth dowel impressed into the lip edge. The exception is an interior lip-notched jar rim (Feature 36) on which a cord wrapped dowel was used. No vertically applied lip notching was present.

Punched and noded rims were more common on jars. The single exception in the bowl category as noted above, has already been questioned.

## Bowls

The major portion, if not all of the smoothed body sherds, can probably be included in the bowl group. The majority of reconstructed bowl fragments do not accurately reflect the range of size of the bowls present on the site. Smoothed sherds reaching a thickness of 18-20 mm. were common in many features. These thick sherds undoubtedly are the basal sections of quite large bowls or pans. Not all bowls exhibit the thickened base, but it is perhaps more common of the bowls as a group than the rims would indicate. These thickened bases usually show more smoothed-over cord marking, commonly to the point of total obliteration of the cord markings.

## Miniature Vessels

Miniature vessels were commonly of a small bowl form varying from perhaps "thumb" size to nearly nine centimeters in diameter. Some showed a small flared lip or vertical notching at the lip. One example of a shallow form has a distinct spout (Plate 7b). Cord marking occurred infrequently on these vessels.

## Vessel Form Unknown

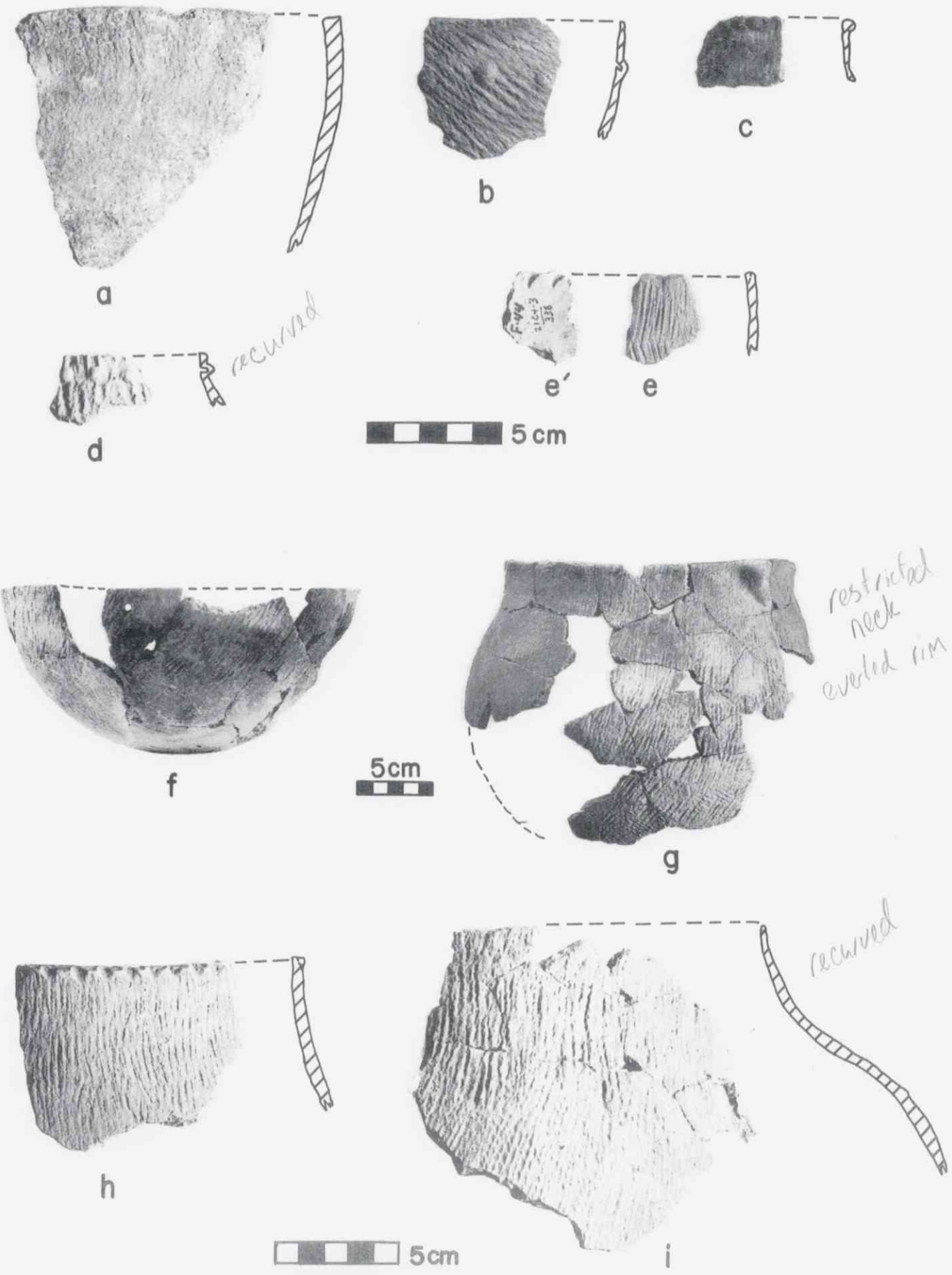
One example of a small, nearly conical, lug is found on a smoothed sherd in this group. The lug is even with the lip and there are smooth dowel impressed notches on the interior of the lip. The sherd was found near fragments of Burial 1 (Feature 18).

## Body Sherds

The smoothed category as already mentioned above relates almost entirely to bowl forms. One cord marked body sherd had small (two millimeters diameter) circular punctates applied on the exterior of the vessel over the cord marking. These punctates produced no noding of the interior wall. They were probably placed in a horizontal band around the vessel.

Of the Late Woodland ceramic assemblages previously described for southern Illinois, the materials at the Burning

# PLATE 5


a
b
c
d
recurved
e'
e
5 cm
f
5cm
restricted neck everted rim
g
h
recurved
i
5cm

Star site are most easily associated with the Raymond Focus as described by Maxwell (1951:193-211, 278-279). However, at the present this is a poorly understood cultural unit in southern Illinois.

## LITHICS

All bifacial tools with, and some without, haft modifications are illustrated in Plate 6a-m. Table 10 gives provenience data on these and other classes of lithic material. Table 11 gives selected measurements and weights for bifacial tools.

Basal grinding noted on bifacial tools with haft modifications, with the exception of specimen 105 (Plate 6a), may be the result of haft wear only. Specimen 105 is heavily ground on the lateral stem margins and in the notch. At the basal margin the grinding is less extensive. Specimen 105 has many characteristics of the Lowe Flared Base point (Winters, 1967:90-91).

Specimen 48 (Plate 6e) is similar to MacNeish's Type IVa of the Lewis Focus (MacNeish, n.d.:36), and to Harn's Bend School Knife (Harn, 1971:33).

Specimens 437 and 49 (Plate 6h and i, respectively) are made on small flakes where working of the concave side of the flake has been limited to the margins of the point in order to thin and notch the base and produce an edge on the blade.

TABLE 10

LITHIC AND BONE ARTIFACTS, 21C4-3

| Fea. No. | CHERT | | | | | | | | | | | | | | NON-CHERT | | | | WORKED BONE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flakes | | "Chips" | | Bifacial Retouch[1] | Cores | Bifacial Fragment | Bifacial Tool w/o haft mod. | Bifacial Tool w/ haft mod. | Unifacial Tool | Perforator | Hoe Frag. | Chert Hammer | Ground chert Fragment | Pitted Stone | Sandstone Abrader | Hammerstone or Fragment | Ground Stone or Fragment | Antler Proj. Pt. or Frag. | Cut Antler | Cut Bone | Cut and Drilled Bone | Deer Phalange | Awl |
| | Decortication | Non-Decortication | Decortication | Non-Decortication | | | | | | | | | | | | | | | | | | | | |
| 1 | 3 | 7 | 1 | 6 | | | 1 | | 1 | | | | | | | | | | | | | | | |
| 2 | 6 | 23 | 5 | 23 | 16 | | 1 | | 1 | | | 1 | | | | | | 1 | | | | | | |
| 4 | 3 | 8 | | 5 | 3 | 1 | 1 | 1 | | 2 | | | | | | 1 | | 1 | | | | | | |
| 6 | 13 | 26 | 8 | 25 | 6 | | 1 | | 2 | | 2 | | | | 1 | | | | 1 | 1 | 1 | 3 | | 1 |
| 7 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 2 | 6 | | | 5 | | | | 2 | | | | | | | | | | | 3 | | | | |
| 11 | 4 | 2 | 2 | 5 | | | | | | | | | | | | | | | | 1 | | | | |
| 13 | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | |
| B1 18 | | 2 | | | | | | | | | | 1 | | | | | | | | | | | | |
| B2 18 | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| B3 18 | | | | | | | | | | | | | | | | | | | | | | | | |
| 19[2] | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| 19A | 1 | 2 | | 2 | | | | | | | | | | 1 | | | | | | | | | | |
| 19B | | 1 | | 1 | | | | | 1 | | | | | | | | | | | | 1 | | | |
| 21 | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | 2 | | 1 | | | | | | | | | | | | | | | | | | 1 |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 1 | 3 | 2 | 6 | 2 | 1 | 1 | | | | | | | | | | | | | | | | | |
| 30 | 4 | 6 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |

1: This not a separate count but included under Flakes

2: Fill above and surrounding Feature 19A and 19B

TABLE 10 (continued)
LITHIC AND BONE ARTIFACTS, 21C4-3

| Fea. No. | CHERT | | | | | | | | | | | | NON-CHERT | | | | WORKED BONE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flakes | | "Chips" | | | | | | | | | | | | | | | | | | | |
| | Decortication | Non-Decortication | Decortication | Non-Decortication | Bifacial Retouch | Cores | Bifacial Fragment | Bifacial Tool w/o haft mod. | Bifacial Tool w/ haft mod. | Unifacial Tool | Perforator | Hoe Frag. | Chert Hammer | Ground chert Fragment | Pitted Stone | Sandstone Abrader | Hammerstone or Fragment | Ground Stone or Fragment | Antler Proj. Pt. or Frag. | Cut Antler | Cut Bone | Cut and Drilled Bone | Cut and Drilled Deer Phalange | Awl |
| 31A[3] | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| 31A[4] | | | | | | | | | | | | | | | | | | | | | | | | |
| 31[5] | 3 | 3 | | 2 | | 2 | | | | | | | | | | | | 1 | | | | | | |
| 31B | 1 | 2 | | 1 | | | | | | | | | | | | 1 | | 1 | | | | | | |
| 31C | 2 | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| 32 | | | 1 | 3 | | | 1 | | | | | | | 1 | | | | | | | 1 | | | |
| 33 | | 1 | | | | | | 1 | | | | | | | | | | 1 | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 1 | 1 | | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| 36[6] | 4 | 4 | | 1 | 3 | | | | 1 | | | | | | | | | | | | | | | |
| 36A | 5 | 8 | 1 | 3 | 6 | | | 1 | | | | | | | | | | | | 1 | | | | |
| 36B | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| 36C | | | | | | | | | | | | | | | | | | | | | | | | |
| 36D | | | | | | | | | | | | | | | | | | | | | | | | |
| 36E | | | | | | | | | | | | | | | | | | | | | | | | |
| B4 37 | 3 | 7 | | 4 | 2 | | | | | 1 | | | | | | | | | | | | | | |
| 39 | 1 | 4 | | 4 | | | | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | 1 | 1 | | 2 | | | 1 | | | | | | | | | 1 | | | | | | | | |
| 42 | | 4 | 1 | 9 | 1 | | | | | 1 | | | | | | | | | | | | | | |
| 43 | 5 | 11 | 2 | 6 | 1 | 4 | | | | 1 | | | | | | | | 2 | | | | | 1 | 1 |
| 44 | 4 | 3 | | 2 | | 1 | | | | | | | | | | | | | | | | | | |

3: Above clay lens
4: Below clay lens
5: Trench A-B
6: One half of feature, all levels mixed.

TABLE 10 (continued)
LITHIC AND BONE ARTIFACTS, 21C4-3

| Fea. No. | CHERT | | | | | | | | | | | | | NON-CHERT | | | | WORKED BONE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flakes | | "Chips" | | Bifacial Retouch[1] | Cores | Bifacial Fragment | Bifacial Tool w/o haft mod. | Bifacial Tool w/ haft mod. | Unifacial Tool | Perforator | Hoe Frag. | Chert Hammer | Ground chert Fragment | Pitted Stone | Sandstone Abrader | Hammerstone or Fragment | Ground Stone or Fragment | Antler Proj. Pt. or Frag. | Cut Antler | Cut Bone | Cut and Drilled Bone | Cut and Drilled Deer Phalange | Awl |
| | Decortication | Non-Decortication | Decortication | Non-Decortication | | | | | | | | | | | | | | | | | | | | |
| 45 | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | |
| 46 | | 1 | | 2 | | | | | | | | | | | | 1 | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | 4 | | | | | | |
| 50 | | 2 | | 1 | | | | | | | | | | | | | 1 | | | | | | 1 | |
| 51 | 5 | 4 | | 1 | | | 1 | | | | | | | | | | | | | | | | | |
| 52 | 8 | | | 1 | | | | 2 | | | | 2 | | | | | | | | | | | | |
| 53 | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| 54 | 5 | 3 | 1 | 9 | | 1 | | | 1 | | | | | | | | 1 | | | | | | | |
| 55 | 25 | 37 | 9 | 30 | 5 | 10 | | | 1 | 2 | | | | | | | | | | | | | | |
| B10 56A[7] | | | | | | | | | | | | | | | | | | | | | | | | |
| B10 56B[7] | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| B10 56C[7] | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| 57 | 4 | 9 | 1 | 6 | | | 1 | | | | 1 | | | | | 2 | | | | | | | | |
| B6&7 58 | | | | | | | | | | | | | | | | | | | | | | | | |
| B8 59 | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 115 | 198 | 38 | 173 | 52 | 25 | 8 | 6 | 10 | 7 | 3 | 3 | 1 | 2 | 1 | 6 | 2 | 11 | 1 | 6 | 3 | 3 | 2 | 3 |

7: Each area has fragments of burial 10

TABLE 11
METRIC DATA, 21C4-3
BIFACIAL TOOLS WITH HAFT MODIFICATION

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 105 | nd | 24 | 7 | 8.0 | 15 | 20 | 12 | nd | 12 | 12 | 3 | 3 | A | P | H |
| 2 | 11 | nd | nd | 6 | 5.9 | 16 | 18 | 12 | nd | nd | 15 | nd | 4 | A | P | L |
| 19B | 153 | 44 | 20 | 9 | 8.7 | 15 | nd | 15 | 29 | 14 | nd | 2 | nd | A | P | L |
| 54 | 442 | 40 | 17 | 8 | 5.1 | 14 | 18 | 13 | 27 | 11 | 10 | 2 | 2 | L* | A | - |
| 9 | 48 | 55 | 21 | 10 | 10.4 | 11 | 13 | 17 | 38 | 13 | 16 | 3 | 4 | A | P | L |
| 36 | 418 | nd | 24 | 8 | 4.8 | 17 | 23 | 13 | nd | 11 | 11 | 4 | 3 | A | P | L |
| 6 | 106 | 29 | 11 | 6 | 1.9 | 10 | 13 | 10 | 19 | 8 | 8 | 1 | 1 | A | A | - |
| 55 | 437 | 26 | 20 | 5 | 2.4 | 12 | 14 | 5 | 21 | 6 | 6 | 3 | 3 | A | A | - |
| 9 | 49 | 28 | 17 | 4 | 2.1 | 10 | 13 | 6 | 22 | 5 | 5 | 2 | 3 | A | A | - |
| 1 | 77 | nd | nd | 7 | 4.8 | nd | nd | nd | nd | nd | nd | nd | nd | A | nd | - |
| 32 | 179 | nd | 30 | 8 | 12.3 | nd | nd | nd | 43 | nd | nd | nd | nd | L | nd | - |

BIFACIAL TOOLS WITHOUT HAFT MODIFICATION

| A | B | C | D | E | F | R | S |
|---|---|---|---|---|---|---|---|
| 18 | 113 | 58 | 28 | 11 | 16.7 | 21 | 27 |
| 52 | 351 | nd | 46 | 11 | 34.0 | 27 | 32 |
| 52 | 350 | nd | 23 | 6 | 5.1 | 15 | 15 |
| 33 | 175 | 38 | 29 | 7 | 8.1 | 14 | 11 |
| 36A | 505 | 32 | 21 | 8 | 5.0 | 15 | 14 |
| 4 | 61 | 30 | 18 | 6 | 4.0 | 15 | 7 |

A=Feature No.
B=Specimen No.
C=Total Length (mm.)
D=Max. Blade Width (mm.)
E=Thickness (mm.)
F=Weight (grams)
G=Min. Tang Width (mm.)
H=Max. Tang Width (mm.)
I=Tang Length (mm.)
J=Blade Length (mm.)
K=Right Notch Width (mm.)
L=Left Notch Width (mm.)
M=Right Notch Depth (mm.)
N=Left Norch Depth (mm.)
O=Beveling of Blade (Present or Absent)
P=Basal Grinding (Present or Absent)
Q=Extent of Basal Grinding (Light or Heavy)
R=Basal Width (mm.)
S=Distance between base and axis of maximum width.

*Slight beveling produced by last retouching of blade.
nd: no data

Specimens 418 and 179 (Plate 6f and k, respectively) may be Archaic in origin.

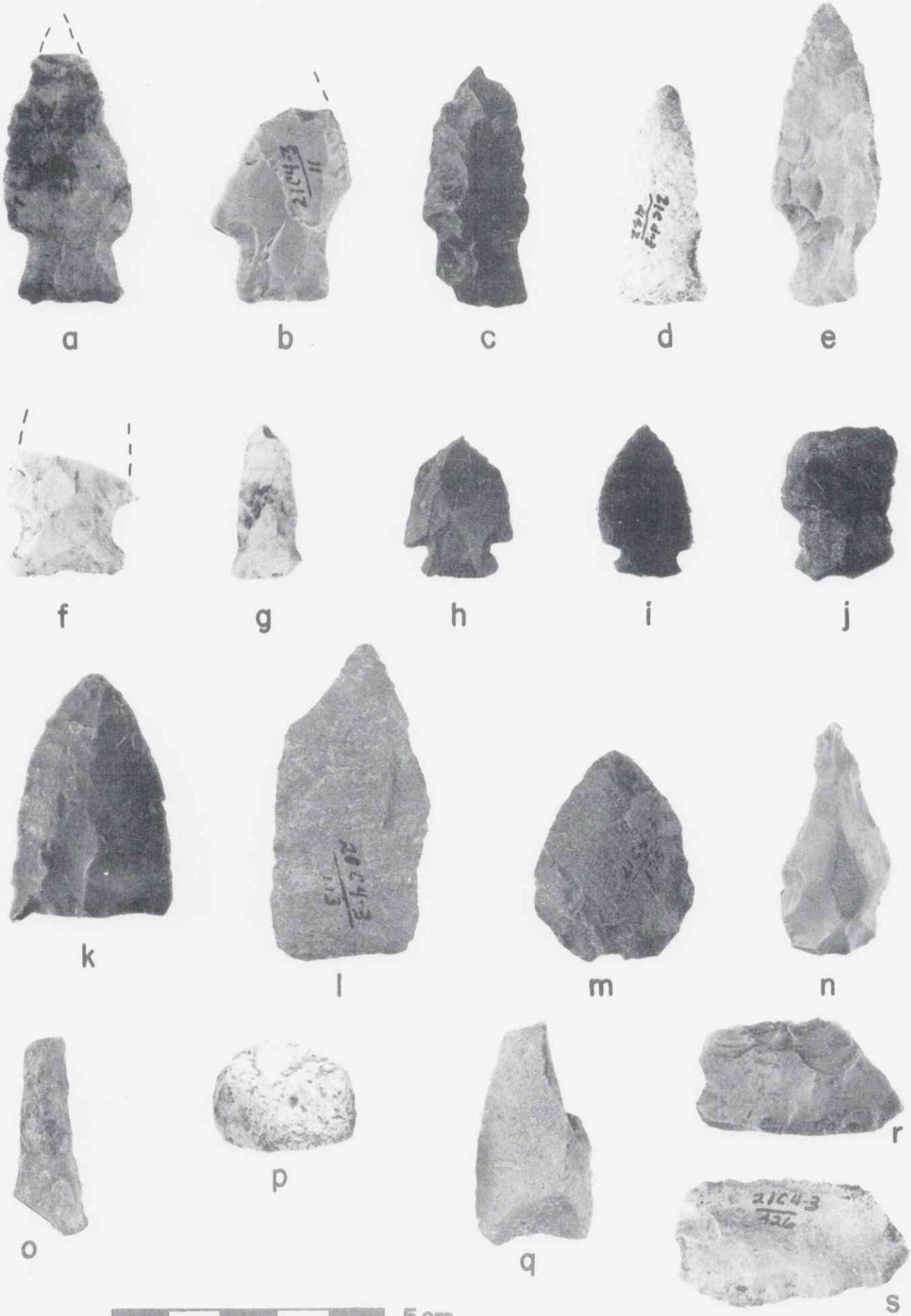
In Table 10 the category "Chips" is a catch-all for numerous types of lithic shatter, etc. Flakes were classified either as bifacial retouch flakes (identified by the characteristic lip formed at the striking platform) or as simply flakes that had an identifiable striking platform preserved.

Chert resources exploited at the Burning Star site appear to be over 95 percent local glacial drift cherts. Very minor occurrences of Cobden cherts were identified from decortication material. Minor amounts of Kaolin chert were similarly identified.

The local glacial drift cherts vary widely in color from various shades of white and gray to browns, yellows, and reds. These cherts occur as small, irregular, weathered pebbles or blocks that can still be found in quantity in many eroded hillsides and banks in the immediate vicinity of the Burning Star site.

From inspection of the chert materials from the features, it appears that the major technique used to work the glacial cherts was essentially a block technique. Small unworked pebbles were sometimes encountered. Cores were simply a pebble with one or more flakes removed from it. One or two

# PLATE 6



small blades were encountered which might indicated that some of the local cherts were being worked into prepared cores. However, no cores were found which could substantiate this.

Of the non-chert materials the category "Ground Stone Fragment" is the most inclusive, including celt, mano and other fragments of various unidentified items.

## CLAY AND SHELL ARTIFACTS

Some clay items are illustrated in Plate 7h-m where provenience data is given. One additional clay disc was found in Feature 55. A clay sphere occurred in Feature 57 and had a diameter of two centimeters. A grit-tempered clay pipe stem fragment was present in Feature 51. Daub was recognized only from Features 1 and 31B.

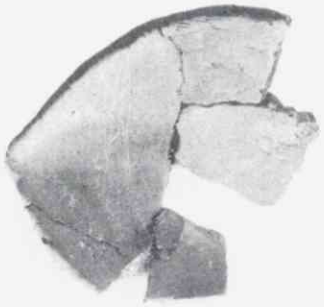
One Anculosa shell bead was recovered from Feature 9. No other shell items were worked in any manner.

## BONE AND ANTLER ARTIFACTS

These materials are included in Table 10. A few items are illustrated in Plate 7c-g. One deer antler projectile point fragment was recoverd from Feature 6 along with three cut deer antler fragments resulting from the manufacture of these points. Two deer phalange "tinklers" were hollowed from the proximal end and drilled with a small tool from the

# PLATE 7

a



b

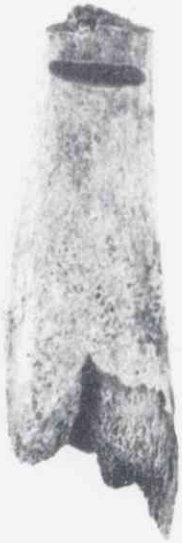
5 cm

c

d

e

5 cm



f

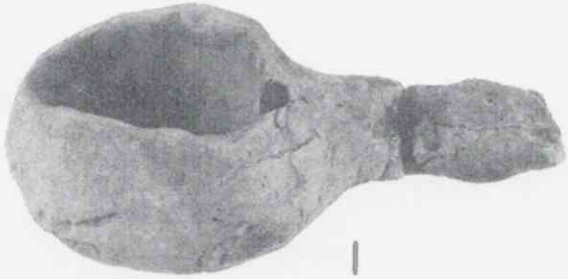
g

h

i

j

k



l

5 cm

m

distal end. Other features produced additional worked deer items in the form of cut antler fragments.

One awl fragment was of unidentifiable bird bone. The remaining two examples were produced from large mammal bones.

All examples of both "Cut Bone" and "Cut and Drilled Bone" are apparently bird bone. One fragment has been identified as turkey, Meleagris gallopavo. These bone items are small, flat, rectangular or oval sections cut from rather large bird bones or the resulting waste from the manufacture of these small sections. Some of these sections are drilled or drilled and polished.

## BURIALS

No analysis of the skeletal remains from the Burning Star site has been undertaken to date. All burials were in a relatively poor state of preservation. Burials 3, 4 and 9 were in oval to rectangular prepared pits. The association of materials with burials not found in prepared pits is quite tenuous.

Some evidence supporting the report of a mound in the vicinity of the excavations was found in the area of Feature 18. Here a 0.4 to 0.5 foot layer of fill was present over the entire hand-excavated area. This report of a mound and the fill layer in the feature just mentioned would perhaps allow the speculation that at least Burials 1-3 were located

within this mound. The fill layer in Feature 18 had incidental inclusions of Late Woodland ceramics and other debris. In Figure 1 there should be a 0.5 foot fill layer between the top of the Burial 3 pit and the plow zone rather than having the pit meet the plow zone as illustrated.

Grave goods were rare. A clay bead from Burial 10 and a bifacial tool from the vicinity of Burial 2 are the only items recovered which may have been intentionally placed with the burials. Incidental inclusions of Late Woodland ceramics and other debris occurred throughout the burial areas and in the prepared pits.

## Burial 1 (F-18)

Disturbed cranial fragments were present at the base of the plow zone and at the top of the fill layer. These fragments overlay the Burial 3 pit but were not associated with it.

## Burial 2 (F-18)

Bundle burial.

Long bones and cranial fragments were present in the upper part of the fill layer in Feature 18. Possibly the cranial fragments designated Burial 1 are associated with this burial. One bifacial tool (Plate 61) and other items characteristic of the inclusions of the Feature 18 fill layer were associated with this burial.

## Burial 3 (F-18)

Semi-flexed burial.

All bones were present and articulated. A prepared pit was first defined below the fill layer. Around the margins of the pit, yet within it, were a number of rectangular limestone slabs with their long axis' oriented parallel to

the edges of the pit. There was no indication that stones may have covered the pit. The trunk was oriented at 130° the head was at the southeast and the legs were flexed to the left.

Burial 4 (F-37)

Semi-flexed burial.

Nearly all bones of one individual were present and articulated. A second individual was represented by cranial fragments and some articulated bones of the lower skeleton. A prepared pit was defined.

Burial 5 (F-50)

Cranial fragments and mostly disarticulated bones of the upper skeleton were present in a trash or fire pit. Aboriginal cut marks were observed on one of the cranial fragments. None of the fragments of human bone in the pit were burned.

Burials 6 and 7 (F-58)

Two semi-flexed burials.

These individuals apparently were interred at the same time. No pit could be defined. The burials were partially removed by a grader cut yet it appeared that all bones were originally present and articulated. The individuals faced in opposite directions. Both trunks were oriented at approximately 140°, Burial 6 lay with the head to the north. Burial 7 lay with the head to the south.

Burial 8 (F-59)

Semi-flexed burial.

All bones were present and articulated. Limestone slabs were placed along the west margin of a prepared pit in a manner similar to that observed for Burial 3. Again, there was no indication that stones had been placed over the pit itself. The trunk was oriented at approximately 120° with the head at the southeast and legs flexed to the right.

Burial 9 (no feature number)

These unidentified fragments of human bone were located at the base of the plow zone five feet east of Feature 60.

Burial 10 (F-56)

Various fragments of human bone were located at the base of the plow zone. One area (F-56A) had fragments of the upper skeleton of one individual still undisturbed. Located near the mandible was one clay bead (Plate 7k).

Because of time limitations the burials were removed in their soil matrix and complete osteological analysis has not been completed at this time.

FAUNAL REMAINS

The salvage operations at this site yielded a large quantity of non-human vertebrate remains from various features throughout the site and from general surface collections. Enough of the remains were identified to give a good estimate of the proportions of animals utilized by the site inhabitants. All of the mammalian remains represent species now living in the area while several of the avian genera such as prairie chickens and turkeys are now extirpated.

Because of my lack of experience and because of a lack of comparative material, some identifiable avian remains have gone unidentified, and all those identified have been conservatively provided with a question mark. Identification of some specimens, especially avian ones, is at best an educated guess. Various biases caused by collecting and identifying methods, factors in preservation, and those caused by the site inhabitants themselves probably have all lended in making inaccurate at best any attempt to determine the actual numbers

and types of animals utilized. Therefore, the limitations of this study should be taken into account.

## Discussion

Of the animals identified to genus, deer is overwhelmingly the most important source of food. It is also the most common animal numerically representing 60 percent of the remains identified to genus. Avian and fish remains are important but secondary, as are small mammals. Reptiles are significant in numbers of specimens but unimportant in terms of minimum number of individuals and volume of food available from them. Nearly all of the remains are easily identifiable fragments of box turtles and more than half of these belong to presumably one individual in Feature 6. By group, mammals comprised 74.5 percent of the remains identified to genus, reptiles 14.5 percent, fish 7.5 percent, and birds 4.5 percent.

Nearly all of the fish generically identified were between six and 25 centimeters and most were closer to the first figure. Even in those few avian fragments identified to genus (two prairie chicken and four turkey), it is clear that birds contributed a greater volume of food than fish.

Many of the bones recovered were heavily charred and some showed butchering marks. Also, from the bones in fragmentary condition, it is obvious that there was complete utilization

of the animal. The squirrel skull in Feature 43 was that of a mature animal. However the bones are apart at the sutures. The individual skull bones are warped at the margins like that which occurs when overboiling recent specimens. Other specimens show similar but less pronounced warping. It may be that specimens were boiled thoroughly before eating. Parts of separate individuals appear to be scattered throughout several features. Thus the occupation may have been contemporaneous for several features at a time and possibly for the entire site.

Feature 50 is of special interest. Most of the remains present are those of a disarticulated and broken up human skeleton. The individual is very old, and the teeth either worn flat or missing. In close association with the broken palate of these remains was found an unworn peg-like premolar of a black bear (Ursus americanus). It is conceivable that this person replaced one of his missing teeth with the bear tooth.

Identifiable remains were present in the small collection of worked bones from the site and were tabulated along with the unworked specimens in Table 12. Feature 6 contains two worked deer antler fragments and one worked large bird bone fragment. Feature 9 contains three worked antler fragments, and Feature 11 contains one worked antler fragment.

## TABLE 12
## FAUNAL LIST, 21C4-3

NOTE: When a number is followed by a dash and then another number, the first number represents the number of identified pieces and the second number gives the minimum number of individuals.

| Feature Number | Deer Odocoileus Virgianus | Raccoon Procyon lotor | Canid Canis familiaris? | Bear Ursus Americanus | Woodchuck Marmota monax | Squirrel Sciurus sp. | Vole Microtus sp. | White-footed mouse Peromyscus sp. | Rabbit Sylvilagus sp. | Meleagris gallopavo | Turkey (?) Tympanuchus sp. | Prairie Chicken (?) Terrapene sp. | Box Turtle | Snake Serpentes sp. indet. | Bullhead (?) Ameiurus sp. | Crappie, bluegill Centrarchidae (?) | Indet. fish scale | Indet. large birds (mostly large bird bones | Unident. small rodent | Turtle sp. | Unident. fragments (most prob. deer) (excluding flotation) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | NO IDENTIFIABLE SPECIMENS | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | 1 | | | | | | | |
| 4 | 8-1 | | | | | | | | | | | | | | | | | | | | 15 |
| 6 | 4-1 | | 1 | | | | | | | | | | 13-1 | | | | | 7-1 | | 2 | 162 |
| 7 | | | | | | | | | | | | | 1 | | | | | | | | |
| 8 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | | 4 |
| 9 | 8-1 | | | | 3-1 | 1 | | | | | | | 2-1 | | 1 | 2-1 | | 2 | | | |
| 11 | 1 | | | | | | 1 | 1 | | | | | | | | | | | 18 | | |
| 13 | | 7-1 | | | | | | | | | | | | | | | | | | | 3 |
| 19* | | | | | | | | | | | | | 1 | | | | | | | | 9 |
| 19A | | | | | | 1 | | | | | | | | | | 1 | | | 1 | | |
| 19B | 4-1 | | | | | | | | | 1 | | | | | | 1 | | 1 | | 1 | 25 |
| 21 | 3-1 | | | | | | | | | | | | | | | | | | | | 13 |
| 23 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | | |
| 24 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | | |
| 25 | 1 | | | | | | | 1 | | | | | | | | | 1 | | | 1 | 10 |
| 26 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | | |
| 28 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | | |
| 29 | 1 | | | | | | | | | | | | 1 | | | | | | | | 49 |

*Fill above and surrounding F-19A and B.

## TABLE 12 (continued)
## FAUNAL LIST, 21C4-3

NOTE: When a number is followed by a dash and then another number, the first number represents the number of identified pieces and the second number gives the minimum number of individuals.

| Feature Number | Odocoileus virginianus (Deer) | Canis familiaris? (Canid) | Ursus americanus (Bear) | Marmota monax (Woodchuck) | Sciurus sp. (Squirrel) | Microtus sp. (Vole) | Peromyscus sp. (White-footed mouse) | Sylvilagus sp. (Rabbit) | Meleagris gallopavo (Turkey (?)) | Tympanuchus sp. (Prairie chicken (?)) | Terrapene sp. (Box Turtle) | Serpentes sp. indet. (Snake sp. indet.) | Ameiurus sp. (Bullhead (?)) | Centrarchidae (?) (Crappie, bluegill) | Indet. large fish scale | Indet. bird bones (mostly large birds) | Unident. small rodent | Turtle sp. | Unident. frag-ments (most prob. deer) (excluding flotation) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | |
| 31A** | | | | | | | | | | | | | | | | | | | 4 |
| 31A*** | | 1 | | | | | | | | | | | | | | | | | 1 |
| 31B | | | | | | | | | | | | | | | | | | | 8 |
| 31C | 1 | | | | | | | | | | | | | | | | | | |
| 31(A-B Trench) | 1 | | | | | | | | | | | | | | | | | | 14 |
| 32 | | | | | | | | | | | 1 | | | | | | | | 19 |
| 33 | NO IDENTIFIABLE SPECIMENS | | | | | | | | | | | | | | | | | | |
| 34 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | |
| 35 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | |
| 36 (all levels) | 8-1 | | | | | | | | | | | 1 | | | | 3 | | | 83 |
| 37 | NO IDENTIFIABLE SPECIMENS | | | | | | | | | | | | | | | | | | |

**Above clay lens.
***Below clay lens.

## TABLE 12 (continued)
## FAUNAL LIST, 21C4-3

NOTE: When a number is followed by a dash and then another number, the first number represents the number of identified pieces and the second number gives the minimum number of individuals.

| Feature Number | Deer Odocoileus Virgianus | Raccoon Procyon lotor | Canid Canis familiaris? | Bear Ursus Americanus | Woodchuck Marmota monax | Squirrel Sciurus sp. | Vole Microtus sp. | White-footed mouse Peromyscus sp. | Rabbit Sylvilagus sp. | Turkey (?) Meleagris gallopavo | Prairie Chicken (?) Tympanuchus sp. | Box Turtle Terrapene sp. | Snake Serpentes sp. indet. | Bullhead (?) Ameiurus sp. | Crappie, bluegill Centrarchidae (?) | Indet. large fish scale | Unident. bird bones (mostly large birds) | Indet. small rodent | Turtle sp. | Unident. frag-ments (most prob. deer) (excluding flotation) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | 1 | | | | | | | | | | | | | | | | | | | 25 |
| 40 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | |
| 41 | 4-1 | | | | | | | | | | | | | | | | | | | |
| 42 | NO IDENTIFIABLE SPECIMENS | | | | | | | | | | | | | | | | | | | |
| 43 | 5-2 | | | | | 6-1 | | | | 1 | | | | | | | 1 | | | 82 |
| 44 | 7-1 | | | | | | | | | | | 4-1 | | | | | | | 1 | |
| 45 | 1 | | | | | | | | | | | | | | 1 | | | | 1 | 5 |
| 46 | | | | | | | | | | | | | | | | | | | | 2 |
| 47 | | | | | | | | | 1 | | | | | | | | | | | 8 |
| 48 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | 1 | | | 29 |
| 50 | 5-2 | | | 1 | | 1 | | | | | | | | | 6 | | | 2 | 1 | |
| 51 | 1 | | | | | | | | | | | | 2 | | | | | | | 17 |
| 52 | 22-1 | | | | | | | | 1 | 1 | 2-2 | | | | | | 10 | | | 72 |
| 53 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | |
| 54 | NO IDENTIFIABLE SPECIMENS | | | | | | | | | | | | | | | | | | | |

## TABLE 12 (continued)
## FAUNAL LIST, 21C4-3

NOTE: When a number is followed by a dash and then another number, the first number represents the number of identified pieces and the second number gives the minimum number of individuals.

| Feature Number | Odocoileus virginianus Deer | Procyon lotor Raccoon | Canis familiaris? Canid | Ursus americanus Bear | Marmota monax Woodchuck | Sciurus sp. Squirrel | Microtus sp. Vole | Peromyscus sp. White-footed mouse | Sylvilagus sp. Rabbit | Meleagris gallopavo Turkey (?) | Tympanuchus sp. Prairie Chicken (?) | Terrapene sp. Box Turtle | Snake Serpentes sp. Indet. | Ameiurus sp. Bullhead (?) | Centrarchidae (?) Crappie, bluegill | Indet. large fish scale | (mostly large birds) Unident. bird bones | small rodent Indet. | Turtle sp. | Unident. fragments (most prob. deer) (excluding flotation) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | | | | | | | | | | | | | | | | | | | | 33 |
| 56 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | |
| 57 | 2-1 | | | | | | | | | | | | | | 2 | 1 | | | | 32 |
| 58 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | |
| 59 | NO FAUNAL REMAINS | | | | | | | | | | | | | | | | | | | |
| 60 | NO IDENTIFIABLE SPECIMENS | | | | | | | | | | | | | | | | | | | |
| General Surface Collection | 23-3 | | 1 | | | | | | | | | | | | | | | | 2 | 77 |
| TOTAL PIECES | 111 | 7 | 2 | 1 | 3 | 9 | 1 | 2 | 2 | 4 | 2 | 23 | 4 | 1 | 13 | 2 | 25 | 21 | 9 | 801 |

TOTAL SPECIMENS: 1153

Present in Feature 19B is a worked turkey (?) bone. Feature 43 and 50 each contained one worked deer toe bone. All of the antler fragments are deer.

One deer mandible aged on the basis of tooth eruption was 18 months ± one month at death. Assuming the date of birth for this individual was about the 1st of May, death took place in the fall, possibly in October. Therefore, the site was occupied at least during the fall.

## Procedures Used in Compiling Table 12

All the features containing animal remains are presented separately and in order from the lowest feature number to the highest. Also, Features 31, 19 and 56 are divided into several subfeatures which are dealt with individually. When a number is followed by a dash and then a second number, the first number represents the number of identified pieces and the second represent the minimum number of individuals. Single numbers represent pieces of identified remains. Table 12 also contains specimen totals for mammals, fish, birds, reptiles, and for all identified and unidentified specimens.

## SUMMARY AND CONCLUSIONS

Although excavation at the Burning Star site produced no material which could be assigned to a time period other than the Late Woodland, one Early Archaic Dalton projectile

point and one Middle Woodland Crab Orchard Fabric Marked, interior punched and noded rim sherd were observed in the collection of Mr. Bart Eaton, Steeleville, Illinois. These items came from the field in which the Burning Star site excavations were conducted. Many persons familiar with the site reported a light scatter of material extending north and east across nearly the entire ridge top. Also reported on the site (and much closer to the excavation) was a mound, one foot high and approximately 100 feet in diameter. This mound was thought to have been the remains of a much smaller but higher mound that had been nearly plowed down after many years of cultivation. Some persons recalled an early farmer relating that he often removed large stones from this mound and that numerous burials were encountered in plowing the area. Some of the last undisturbed burials in this mound may be those noted on the east margin of the excavated portion of the site.

The botanical remains from flotation samples indicate a predominance of charred nut hulls (Carya species) as opposed to seeds. Although the seeds have not been identified, inspection of these during separation of the flotation samples produced no remains which would represent cultigens. Hoe chips were present although not numerous. Their association, however, may be with other than the Late Woodland occupation.

The faunal data suggest a major reliance on deer. The woodchuck, mole, mouse and snake remains may not relate to the prehistoric occupation, but could easily be later intrusions in the features. It should be noted that the small (three liter) flotation samples may have resulted in the lesser quantities of small bone such as bird and fish which were identified.

The one Canid remain from below the clay lens in Feature 31, Area A, is definitely to be associated with the prehistoric occupation. The Canid remain from the surface collection is certainly of questionable prehistoric significance.

On the basis of limited evidence, it could be postulated that one or more fall and winter occupations are present at the Burning Star site. The faunal data produced one deer jaw which would indicate this. Pits identified as storage facilities and the semi-subterranean structure can perhaps be seen as the results of a winter occupation. It is perhaps relevant at this point to note that at Hatchery West, Binford (1966: 127-130) associates the Late Woodland La Motte semi-subterranean structures with a winter occupation, while noting that the summer La Motte structures, among other differences, lack semi-subterranean features.

Although a definite summer occupation is not postulated it is not unlikely.

Since no definition of the limits of the site was obtained, it is necessary to rely on verbal data. From all reported evidence it was apparent that the area excavated at the Burning Star site represented only a fraction of the area of scatter of the Late Woodland occupation.

The radiocarbon sample from Feature 31, Area A (below the clay lens) dated at 750+220-250 A.D. (Dicar-144).

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